
KANSAS

WAGE SURVEY

2002

Edition

Kansas Department of Human Resources
December 2002

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Edition
Kansas
Wage Survey**



**Kansas Department of Human Resources
December 2002**

The Honorable Bill Graves
Governor
State of Kansas

Richard E. Beyer, Secretary
Kansas Department of Human Resources

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The Labor Market Information Services section of the Kansas Department of Human Resources conducts an annual wage survey. The Bureau of Labor Statistics and the Employment and Training Administration of the United States Department of Labor contract with every state to collect wage and employment counts of employees by occupational title. Acknowledgment and appreciation is given to the Bureau of Labor Statistics Dallas Regional Office for their technical and program support.

Thanks is given to the staff of the OES Unit who reviewed reports, made follow-up calls to employers, and compiled the publication. The publication was typed and edited by Angela Berland.

William H. Layes, Chief
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Overview

Occupational Employment Estimates (OES) Program

Occupational and wage data are collected under the Occupational Employment Statistics (OES) program of the United States Department of Labor. The Bureau of Labor Statistics and the Employment and Training Administration contract with Labor Market Information Services, Kansas Department of Human Resources, to collect wage data from employers.

The OES Program started in Kansas in 1979 and has been responsible for providing occupational employment demand information for the state since that time. In 1996, the OES Program assumed collection of occupational wage information to lessen the reporting burden on employers.

Each state in the nation conducts an OES survey. From the survey results, estimates of wages and employment by occupation are produced for the country. To access information for other states and national averages the following web address is available.

National and State wage data:
<http://www.bls.gov/oes/>

The Wage Survey

The Kansas Wage Survey continues to be the most requested publication among those produced by Labor Market Information Services.

Wage data for the state and the four Metropolitan Statistical Areas (MSAs): Kansas City, Wichita, Topeka, and Lawrence, are presented in mean and median hourly wages across industries. Wage estimates for "Balance of State" are for all counties not included in a MSA. Separate tables list occupations for which only an average annual salary is available. These occupations do not have a typical work pattern of 40 hours a week for an entire year.

The Standard Occupational Classification (SOC) System was developed in response to a growing need for a universal occupational classification system. The system is used by all Federal statistical agencies to classify workers into occupational categories for the purpose of collecting, calculating, or disseminating data. All workers are classified into one of over 820 occupations according to their occupational definition.

The survey is primarily collected by mail. However, employers have available a toll-free line for making inquiries and reporting employment and wages. Reminder postcards are sent to sampled units, which do not respond after the first two mailings. In addition, phone calls are made to clarify reported data and to encourage employer participation.

Survey Response Rate

Wage estimates in this publication were derived from a survey cycle of three years. In each year, the collection period was the last quarter of the calendar year. Survey samples are taken from the Kansas Unemployment Insurance address file. Approximately 5,000 employers were surveyed. Each year a response rate of 75 percent is required. No business is sampled more than once during the three-year period.

Employment Estimates

Employment estimates are for the fourth quarter of 2001 using the ECI factors. Occupational estimates for total employment are contained in the *Kansas Occupational Outlook 2008*. The outlook employment estimates include self-employment and unpaid family workers, and workers not covered under the Kansas Unemployment Insurance program.

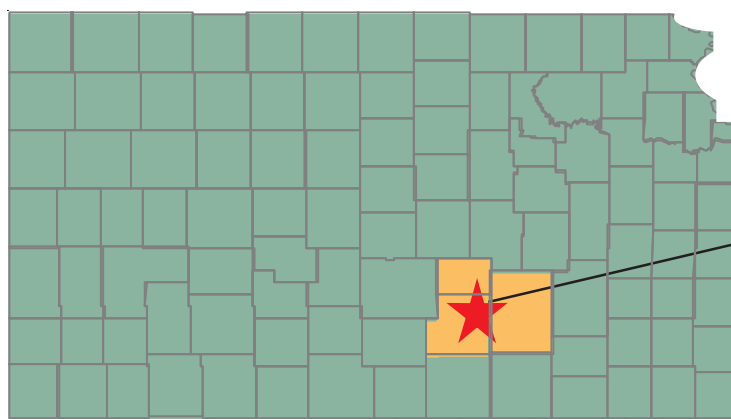
Explanation of Data

Definitions:

- (1) **SOC Code** - The six-digit code assigned to occupations from the Occupational Employment Statistics (OES) Program.
- (2) **Occupational Title** - The title assigned to the occupation from the Occupational Employment Statistics Program.
- (3) **Employment** - 2000 - Q4 (4th Quarter) ECI estimates of total wage and salary employment by occupation.
- (4) **Mean Wage** - The estimated total wages for an occupation divided by its employment.
- (5) **Median Wage** - The estimated 50th percentile of the distribution of wages.

The following is a sample of the occupational data from the Wichita MSA section. Illustrated are the mean and median hourly wages for Pharmacy Technicians and the estimated number of employees for this region. The numbers (1-5) correspond with the definitions listed above.

<i>Healthcare Practitioners and Technical Occupations</i>				
1	2	3	4	5
29-2052	Pharmacy Technicians	170	\$10.21	\$10.02

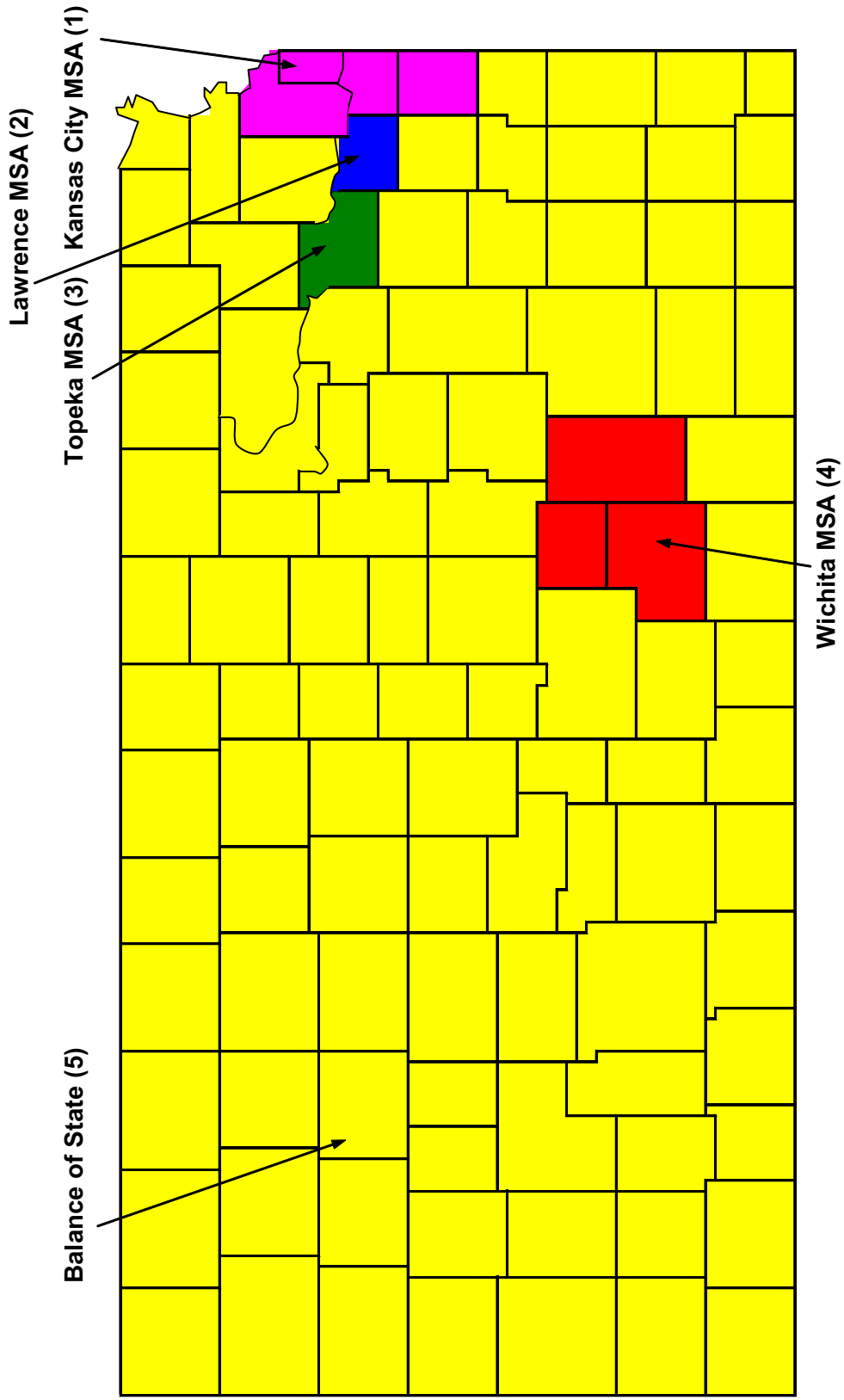


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Wages



KANSAS SUBSTATE REGIONS



Kansas Wages

Management Occupations

<u>Code</u>	<u>Occupational Title</u>	<u>2001 - Q4 Employment</u>	<u>Mean Wage</u>	<u>Median Wage</u>
11-1011	Chief Executives	3,900	\$52.15	\$54.91
11-1021	General and Operations Managers	30,110	\$31.27	\$26.80
11-1031	Legislators	860	\$21.81	\$20.95
11-2011	Advertising and Promotions Managers	NA	\$25.85	\$24.18
11-2021	Marketing Managers	2,020	\$32.60	\$30.95
11-2022	Sales Managers	4,280	\$34.94	\$33.14
11-2031	Public Relations Managers	730	\$27.84	\$24.14
11-3011	Administrative Services Managers	2,790	\$24.46	\$21.53
11-3021	Computer and Information Systems Managers	2,720	\$36.69	\$36.80
11-3031	Financial Managers	5,910	\$31.37	\$28.91
11-3040	Human Resources Managers	2,090	\$29.68	\$27.50
11-3051	Industrial Production Managers	2,570	\$32.22	\$30.48
11-3061	Purchasing Managers	1,270	\$27.97	\$26.02
11-3071	Transportation, Storage, and Distribution Managers	1,310	\$27.25	\$25.20
11-9011	Farm, Ranch, and Other Agricultural Managers	NA	\$20.57	\$19.11
11-9021	Construction Managers	2,680	\$26.26	\$24.80
11-9031	Education Administrators, Preschool and Child Care Center/Program	610	\$18.75	\$15.27
11-9032	Education Administrators, Elementary and Secondary School	2,070	NA	NA
11-9033	Education Administrators, Postsecondary	690	\$30.17	\$27.92
11-9041	Engineering Managers	2,380	\$37.49	\$36.55
11-9051	Food Service Managers	3,320	\$15.59	\$14.73
11-9061	Funeral Directors	500	\$18.19	\$16.88
11-9081	Lodging Managers	450	\$13.90	\$12.70
11-9111	Medical and Health Services Managers	2,660	\$25.38	\$23.72
11-9121	Natural Sciences Managers	250	\$35.57	\$34.38
11-9131	Postmasters and Mail Superintendents	590	\$20.64	\$20.37
11-9141	Property, Real Estate, and Community Association Managers	860	\$17.02	\$13.72
11-9151	Social and Community Service Managers	740	\$18.58	\$17.21
11-9199	Managers, All Other	4,940	\$25.88	\$23.90

Business and Financial Operations Occupations

13-1021	Purchasing Agents and Buyers, Farm Products	340	\$20.02	\$18.89
13-1022	Wholesale and Retail Buyers, Except Farm Products	2,100	\$21.32	\$21.06
13-1023	Purchasing Agents, Except Wholesale, Retail, and Farm Products	1,670	\$19.58	\$18.99
13-1031	Claims Adjusters, Examiners, and Investigators	1,940	\$23.53	\$22.08
13-1032	Insurance Appraisers, Auto Damage	NA	\$13.74	\$11.12
13-1041	Compliance Officers, Except Agriculture, Construction, Health and Safety, and Transportation	1,590	\$20.33	\$17.61
13-1051	Cost Estimators	1,960	\$22.51	\$21.53

Business and Financial Operations Occupations Cont.

<u>Code</u>	<u>Occupational Title</u>	<u>2001 - Q4 Employment</u>	<u>Mean Wage</u>	<u>Median Wage</u>
13-1071	Employment, Recruitment, and Placement Specialists	2,010	\$21.55	\$18.03
13-1072	Compensation, Benefits, and Job Analysis Specialists	770	\$20.98	\$19.57
13-1073	Training and Development Specialists	1,840	\$19.17	\$17.55
13-1111	Management Analysts	3,460	\$27.07	\$25.33
13-1121	Meeting and Convention Planners	210	\$17.10	\$14.82
13-1199	Business Operations Specialists, All Other	5,670	\$21.94	\$20.20
13-2011	Accountants and Auditors	6,880	\$20.98	\$19.49
13-2021	Appraisers and Assessors of Real Estate	1,740	\$22.36	\$20.63
13-2031	Budget Analysts	480	\$24.99	\$23.38
13-2041	Credit Analysts	460	\$25.56	\$20.85
13-2051	Financial Analysts	1,430	\$23.98	\$21.83
13-2053	Insurance Underwriters	1,120	\$29.47	\$27.28
13-2061	Financial Examiners	240	\$27.64	\$27.20
13-2071	Loan Counselors	190	\$12.40	\$12.28
13-2072	Loan Officers	3,100	\$22.47	\$22.72
13-2081	Tax Examiners, Collectors, and Revenue Agents	590	\$20.35	\$17.39
13-2099	Financial Specialists, All Other	910	\$20.22	\$18.56

Computer and Mathematical Science Occupations

15-1011	Computer and Information Scientists, Research	NA	\$33.18	\$33.64
15-1021	Computer Programmers	4,260	\$28.21	\$27.17
15-1031	Computer Software Engineers, Applications	3,160	\$27.26	\$26.77
15-1041	Computer Support Specialists	4,170	\$20.58	\$19.87
15-1051	Computer Systems Analysts	4,880	\$28.49	\$27.63
15-1061	Database Administrators	950	\$28.00	\$26.85
15-1071	Network and Computer Systems Administrators	3,730	\$22.45	\$21.06
15-1081	Network Systems and Data Communications Analysts	1,020	\$27.25	\$26.16
15-2011	Actuaries	270	\$38.73	\$34.53
15-2041	Statisticians	60	\$23.88	\$23.20

Architecture and Engineering Occupations

17-1011	Architects, Except Landscape and Naval	510	\$26.61	\$24.61
17-1012	Landscape Architects	90	\$19.06	\$18.06
17-1021	Cartographers and Photogrammetrists	80	\$16.59	\$16.16
17-1022	Surveyors	440	\$16.43	\$16.37
17-2021	Agricultural Engineers	20	\$23.94	\$23.96
17-2031	Biomedical Engineers	20	\$22.72	\$23.49
17-2051	Civil Engineers	1,770	\$26.04	\$24.89
17-2071	Electrical Engineers	1,010	\$28.94	\$27.48
17-2081	Environmental Engineers	360	\$27.18	\$27.79
17-2112	Industrial Engineers	940	\$25.72	\$25.88
17-2141	Mechanical Engineers	2,180	\$28.69	\$26.82
17-3011	Architectural and Civil Drafters	560	\$17.35	\$16.64
17-3012	Electrical and Electronics Drafters	220	\$16.66	\$15.54

Architecture and Engineering Occupations Cont.

<u>Code</u>	<u>Occupational Title</u>	<u>2001 - Q4 Employment</u>	<u>Mean Wage</u>	<u>Median Wage</u>
17-3013	Mechanical Drafters	730	\$17.38	\$16.39
17-3022	Civil Engineering Technicians	990	\$16.58	\$15.98
17-3023	Electrical and Electronic Engineering Technicians	1,470	\$16.95	\$16.60
17-3025	Environmental Engineering Technicians	100	\$19.87	\$19.52
17-3027	Mechanical Engineering Technicians	650	\$19.78	\$19.36
17-3031	Surveying and Mapping Technicians	680	\$13.97	\$13.34
17-3099	All Other Drafters, Engineering, and Mapping Technicians	2,270	\$16.44	\$15.21

Life, Physical, and Social Science Occupations

19-1010	Agricultural and Food Scientists	400	\$22.49	\$22.62
19-1023	Zoologists and Wildlife Biologists	60	\$21.11	\$19.61
19-1031	Conservation Scientists	140	\$24.63	\$24.85
19-2021	Atmospheric and Space Scientists	80	\$25.14	\$28.25
19-2031	Chemists	710	\$22.18	\$20.81
19-2041	Environmental Scientists and Specialists, Including Health	500	\$22.83	\$21.71
19-2042	Geoscientists, Except Hydrologists and Geographers	240	\$24.78	\$23.52
19-2043	Hydrologists	40	\$23.32	\$21.18
19-3021	Market Research Analysts	710	\$22.62	\$20.90
19-3022	Survey Researchers	110	\$17.07	\$16.26
19-3031	Clinical, Counseling, and School Psychologists	950	\$20.88	\$20.32
19-3093	Historians	20	\$27.52	\$30.71
19-4011	Agricultural and Food Science Technicians	160	\$16.20	\$13.21
19-4021	Biological Technicians	180	\$15.94	\$15.69
19-4031	Chemical Technicians	560	\$17.29	\$15.85
19-4091	Environmental Science and Protection Technicians, Including Health	380	\$18.63	\$18.00
19-4093	Forest and Conservation Technicians	180	\$14.16	\$14.94
19-4099	Life, Physical, and Social Science Technicians, All Other	340	\$15.44	\$14.89

Community and Social Services Occupations

21-1011	Substance Abuse and Behavioral Disorder Counselors	420	\$13.13	\$13.60
21-1012	Educational, Vocational, and School Counselors	2,400	\$17.84	\$19.35
21-1014	Mental Health Counselors	280	\$14.66	\$13.51
21-1015	Rehabilitation Counselors	1,700	\$10.64	\$9.87
21-1021	Child, Family, and School Social Workers	1,210	\$13.60	\$12.89
21-1022	Medical and Public Health Social Workers	690	\$16.49	\$16.10
21-1023	Mental Health and Substance Abuse Social Workers	1,370	\$14.19	\$13.69
21-1091	Health Educators	270	\$16.99	\$14.38
21-1092	Probation Officers and Correctional Treatment Specialists	670	\$14.95	\$14.73
21-1093	Social and Human Service Assistants	2,430	\$10.46	\$10.20
21-2011	Clergy	210	\$17.71	\$16.34
21-9099	All Other Counselors, Social and Religious Workers	750	\$15.08	\$13.46
21-9999	All Other Counselors, Social, and Religious Workers	NA	\$14.94	\$13.25

Legal Occupations

<u>Code</u>	<u>Occupational Title</u>	<u>2001 - Q4 Employment</u>	<u>Mean Wage</u>	<u>Median Wage</u>
23-1011	Lawyers	3,080	\$37.76	\$36.41
23-1022	Arbitrators, Mediators, and Conciliators	30	\$20.70	\$19.91
23-1023	Judges, Magistrate Judges, and Magistrates	360	\$43.36	\$48.86
23-2011	Paralegals and Legal Assistants	1,280	\$16.07	\$15.04
23-2091	Court Reporters	320	\$20.79	\$19.81
23-2092	Law Clerks	110	\$10.19	\$10.20
23-2093	Title Examiners, Abstractors, and Searchers	470	\$14.94	\$13.45
23-9099	All Other Legal and Related Workers	1,250	\$17.58	\$17.12

Education, Training, and Library Occupations

25-1011	Business Teachers, Postsecondary	700	NA	NA
25-1021	Computer Science Teachers, Postsecondary	440	NA	NA
25-1032	Engineering Teachers, Postsecondary	340	NA	NA
25-1041	Agricultural Sciences Teachers, Postsecondary	40	NA	NA
25-1042	Biological Science Teachers, Postsecondary	320	NA	NA
25-1052	Chemistry Teachers, Postsecondary	140	NA	NA
25-1054	Physics Teachers, Postsecondary	90	NA	NA
25-1066	Psychology Teachers, Postsecondary	360	NA	NA
25-1067	Sociology Teachers, Postsecondary	170	NA	NA
25-1072	Nursing Instructors and Teachers, Postsecondary	340	NA	NA
25-1081	Education Teachers, Postsecondary	620	NA	NA
25-1082	Library Science Teachers, Postsecondary	NA	NA	NA
25-1099	Postsecondary Teachers, All Other	NA	\$13.91	\$13.49
25-1121	Art, Drama, and Music Teachers, Postsecondary	890	NA	NA
25-1122	Communications Teachers, Postsecondary	220	NA	NA
25-1123	English Language and Literature Teachers, Postsecondary	690	NA	NA
25-1124	Foreign Language and Literature Teachers, Postsecondary	170	NA	NA
25-1125	History Teachers, Postsecondary	190	NA	NA
25-1126	Philosophy and Religion Teachers, Postsecondary	180	NA	NA
25-1192	Home Economics Teachers, Postsecondary	30	NA	NA
25-1193	Recreation and Fitness Studies Teachers, Postsecondary	250	NA	NA
25-1194	Vocational Education Teachers, Postsecondary	1,080	\$16.66	\$16.36
25-1199	Postsecondary Teachers, All Other	NA	NA	NA
25-2011	Preschool Teachers, Except Special Education	2,030	\$9.76	\$9.28
25-2012	Kindergarten Teachers, Except Special Education	1,420	NA	NA
25-2021	Elementary School Teachers, Except Special Education	17,300	NA	NA
25-2022	Middle School Teachers, Except Special and Vocational Education	6,330	NA	NA
25-2031	Secondary School Teachers, Except Special and Vocational Education	12,440	NA	NA

Education, Training, and Library Occupations Cont.

<u>Code</u>	<u>Occupational Title</u>	<u>2001 - Q4 Employment</u>	<u>Mean Wage</u>	<u>Median Wage</u>
25-2032	Vocational Education Teachers, Secondary School	990	NA	NA
25-2041	Special Education Teachers, Preschool, Kindergarten, and Elementary School	2,000	NA	NA
25-2042	Special Education Teachers, Middle School	740	NA	NA
25-2043	Special Education Teachers, Secondary School	1,420	NA	NA
25-3011	Adult Literacy, Remedial Education, and GED Teachers and Instructors	480	\$15.63	\$13.64
25-3021	Self-Enrichment Education Teachers	1,300	\$16.65	\$15.92
25-3999	All Other Teachers, Primary, Secondary, and Adult	3,470	NA	NA
25-4010	Archivists, Curators, and Museum Technicians	200	\$11.11	\$10.07
25-4021	Librarians	1,630	\$18.30	\$19.02
25-4031	Library Technicians	950	\$9.04	\$8.35
25-9031	Instructional Coordinators	340	\$24.90	\$24.54
25-9041	Teacher Assistants	16,390	NA	NA
25-9199	Education, Training, and Library Workers, All Other	NA	\$12.90	\$10.62

Arts, Design, Entertainment, Sports, and Media Occupations

27-1011	Art Directors	100	\$24.50	\$23.41
27-1013	Fine Artists, Including Painters, Sculptors, and Illustrators	60	\$12.95	\$8.55
27-1021	Commercial and Industrial Designers	130	\$16.80	\$14.34
27-1023	Floral Designers	1,210	\$8.81	\$8.47
27-1024	Graphic Designers	1,780	\$15.31	\$15.46
27-1026	Merchandise Displayers and Window Trimmers	400	\$10.25	\$10.12
27-1099	All Other Art and Design Workers	140	\$15.63	\$15.51
27-2012	Producers and Directors	220	NA	NA
27-2021	Athletes and Sports Competitors	NA	NA	NA
27-2023	Umpires, Referees, and Other Sports Officials	520	NA	NA
27-2032	Choreographers	200	\$13.39	\$10.93
27-2099	Entertainers and Performers, Sports and Related Workers, All Other	50	NA	NA
27-3010	Announcers	810	\$9.10	\$7.90
27-3020	News Analysts, Reporters and Correspondents	630	\$14.45	\$11.58
27-3031	Public Relations Specialists	1,320	\$18.81	\$16.12
27-3041	Editors	840	\$17.93	\$16.61
27-3042	Technical Writers	NA	\$21.83	\$20.86
27-3043	Writers and Authors	540	\$10.85	\$7.78
27-3099	Media and Communication Workers, All Other	190	\$12.77	\$10.99
27-4012	Broadcast Technicians	130	\$15.81	\$14.02
27-4021	Photographers	690	\$10.60	\$9.72
27-4031	Camera Operators, Television, Video, and Motion Picture	120	\$12.09	\$10.42
27-4099	Media and Communication Equipment Workers, All Other	210	\$14.39	\$13.20

Healthcare Practitioner and Technical Occupations

<u>Code</u>	<u>Occupational Title</u>	<u>2001 - Q4 Employment</u>	<u>Mean Wage</u>	<u>Median Wage</u>
29-1020	Dentists	430	\$48.56	\$46.13
29-1031	Dietitians and Nutritionists	390	\$18.85	\$18.33
29-1041	Optometrists	160	\$44.52	\$42.46
29-1051	Pharmacists	2,170	\$32.57	\$32.97
29-1062	Family and General Practitioners	730	\$59.55	\$69.80
29-1065	Pediatricians, General	NA	\$51.52	\$52.26
29-1066	Psychiatrists	90	\$57.46	\$60.05
29-1071	Physician Assistants	750	\$33.06	\$33.87
29-1111	Registered Nurses	21,340	\$19.30	\$18.52
29-1121	Audiologists	70	\$21.06	\$21.53
29-1122	Occupational Therapists	560	\$24.93	\$23.71
29-1123	Physical Therapists	820	\$26.84	\$25.89
29-1125	Recreational Therapists	450	\$14.07	\$14.38
29-1127	Speech-Language Pathologists	710	\$20.51	\$19.54
29-1131	Veterinarians	490	\$25.87	\$22.79
29-2011	Medical and Clinical Laboratory Technologists	1,980	\$17.63	\$17.00
29-2012	Medical and Clinical Laboratory Technicians	1,300	\$12.61	\$12.36
29-2021	Dental Hygienists	2,020	\$24.31	\$24.54
29-2034	Radiologic Technologists and Technicians	1,540	\$15.58	\$15.58
29-2041	Emergency Medical Technicians and Paramedics	2,190	\$8.96	\$8.05
29-2052	Pharmacy Technicians	1,420	\$9.79	\$9.52
29-2053	Psychiatric Technicians	780	\$11.99	\$12.28
29-2056	Veterinary Technologists and Technicians	280	\$10.91	\$11.09
29-2061	Licensed Practical and Licensed Vocational Nurses	7,010	\$14.38	\$13.68
29-2071	Medical Records and Health Information Technicians	2,020	\$10.93	\$10.22
29-2081	Opticians, Dispensing	500	\$9.26	\$8.59
29-9010	Occupational Health and Safety Specialists and Technicians	280	\$18.82	\$17.78
29-9091	Athletic Trainers	300	NA	NA

Healthcare Support Occupations

31-1011	Home Health Aides	4,490	\$8.62	\$8.53
31-1012	Nursing Aides, Orderlies, and Attendants	18,520	\$8.83	\$8.67
31-1013	Psychiatric Aides	770	\$8.50	\$8.27
31-2021	Physical Therapist Assistants	410	\$15.33	\$15.49
31-2022	Physical Therapist Aides	510	\$9.63	\$8.86
31-9091	Dental Assistants	2,840	\$12.06	\$11.95
31-9092	Medical Assistants	2,940	\$10.37	\$10.06
31-9093	Medical Equipment Preparers	NA	\$11.39	\$10.07
31-9094	Medical Transcriptionists	1,160	\$10.65	\$10.54
31-9095	Pharmacy Aides	470	\$8.57	\$8.48
31-9096	Veterinary Assistants and Laboratory Animal Caretakers	860	\$7.84	\$7.13

Protective Service Occupations

<u>Code</u>	<u>Occupational Title</u>	<u>2001 - Q4 Employment</u>	<u>Mean Wage</u>	<u>Median Wage</u>
33-1011	First-Line Supervisors/Managers of Correctional Officers	120	\$21.22	\$22.51
33-1012	First-Line Supervisors/Managers of Police and Detectives	1,150	\$22.39	\$21.98
33-1099	First-Line Supervisors/Managers, Protective Service Workers, All Other	500	\$14.48	\$10.68
33-2011	Fire Fighters	3,570	\$12.17	\$11.98
33-2021	Fire Inspectors and Investigators	70	\$19.76	\$19.54
33-3012	Correctional Officers and Jailers	3,480	\$12.78	\$12.24
33-3051	Police and Sheriff's Patrol Officers	5,430	\$15.38	\$15.23
33-9011	Animal Control Workers	80	\$10.94	\$10.38
33-9032	Security Guards	7,840	\$9.25	\$7.98
33-9091	Crossing Guards	520	\$7.75	\$7.69
33-9099	Protective Service Workers, All Other	660	\$10.08	\$7.56

Food Preparation and Serving Related Occupations

35-1011	Chefs and Head Cooks	760	\$11.66	\$10.50
35-1012	First-Line Supervisors/Managers of Food Preparation and Serving Workers	6,200	\$10.36	\$9.77
35-2011	Cooks, Fast Food	3,050	\$6.78	\$6.67
35-2012	Cooks, Institution and Cafeteria	7,630	\$8.38	\$8.22
35-2014	Cooks, Restaurant	7,030	\$7.65	\$7.30
35-2015	Cooks, Short Order	1,230	\$7.29	\$6.70
35-2021	Food Preparation Workers	6,820	\$7.40	\$7.34
35-3011	Bartenders	5,520	\$6.45	\$6.32
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	21,550	\$7.08	\$6.91
35-3022	Counter Attendants, Cafeteria, Food Concession, and Coffee Shop	4,800	\$7.09	\$6.97
35-3031	Waiters and Waitresses	23,860	\$6.73	\$6.42
35-3041	Food Servers, Nonrestaurant	2,120	\$6.73	\$6.58
35-9011	Dining Room and Cafeteria Attendants and Bartender Helpers	2,620	\$6.68	\$6.63
35-9021	Dishwashers	4,430	\$6.67	\$6.59
35-9031	Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop	2,800	\$7.02	\$6.89
35-9099	Food Preparation and Serving Related Workers, All Other	670	\$8.69	\$7.85

Building and Grounds Cleaning and Maintenance Occupations

37-1011	First-Line Supervisors/Managers of Housekeeping and Janitorial Workers	1,650	\$12.21	\$11.25
37-1012	First-Line Supervisors/Managers of Landscaping, Lawn Service, and Groundskeeping Workers	690	\$15.91	\$14.57
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	21,490	\$8.70	\$8.31

Building and Grounds Cleaning and Maintenance Occupations

<u>Code</u>	<u>Occupational Title</u>	<u>2001 - Q4 Employment</u>	<u>Mean Wage</u>	<u>Median Wage</u>
37-2012	Maids and Housekeeping Cleaners	10,120	\$7.33	\$7.26
37-3011	Landscaping and Groundskeeping Workers	6,520	\$9.55	\$8.94
37-3012	Pesticide Handlers, Sprayers, and Applicators, Vegetation	510	\$11.11	\$10.60
37-9099	All Other Building and Grounds Cleaning and Maintenance Workers	330	\$10.15	\$9.60

Personal Care and Service Occupations

39-1021	First-Line Supervisors/Managers of Personal Service Workers	740	\$12.04	\$11.54
39-2021	Nonfarm Animal Caretakers	1,390	\$7.79	\$7.30
39-3031	Ushers, Lobby Attendants, and Ticket Takers	750	\$6.66	\$6.44
39-3091	Amusement and Recreation Attendants	1,510	\$8.10	\$7.15
39-4011	Embalmers	20	\$18.79	\$17.21
39-4021	Funeral Attendants	320	\$7.84	\$6.79
39-5011	Barbers	160	\$12.90	\$11.19
39-5012	Hairdressers, Hairstylists, and Cosmetologists	3,110	\$10.14	\$8.93
39-5092	Manicurists and Pedicurists	160	\$11.41	\$9.79
39-5094	Skin Care Specialists	NA	\$12.96	\$13.03
39-6022	Travel Guides	NA	\$10.24	\$10.08
39-9011	Child Care Workers	4,880	\$7.50	\$7.41
39-9021	Personal and Home Care Aides	5,120	\$8.18	\$8.12
39-9031	Fitness Trainers and Aerobics Instructors	1,920	\$10.68	\$9.13
39-9032	Recreation Workers	1,850	\$9.91	\$8.78
39-9041	Residential Advisors	970	\$7.87	\$7.66
39-9099	Personal Care and Service Workers, All Other	630	\$7.88	\$6.96

Sales and Related Occupations

41-1011	First-Line Supervisors/Managers of Retail Sales Workers	12,850	\$13.24	\$11.53
41-1012	First-Line Supervisors/Managers of Non-Retail Sales Workers	1,970	\$24.47	\$21.75
41-2011	Cashiers	32,700	\$7.04	\$6.78
41-2021	Counter and Rental Clerks	3,980	\$8.72	\$7.58
41-2022	Parts Salespersons	2,880	\$10.86	\$10.28
41-2031	Retail Salespersons	37,770	\$9.42	\$7.72
41-3011	Advertising Sales Agents	1,470	\$16.70	\$14.37
41-3031	Securities, Commodities, and Financial Services Sales Agents	1,410	\$37.12	\$27.35
41-3041	Travel Agents	890	\$12.97	\$12.34
41-3099	Sales Representatives, Services, All Other	NA	\$22.23	\$20.31
41-4011	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	4,240	\$27.11	\$24.80

Sales and Related Occupations

<u>Code</u>	<u>Occupational Title</u>	<u>2001 - Q4 Employment</u>	<u>Mean Wage</u>	<u>Median Wage</u>
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	13,810	\$23.02	\$20.78
41-9011	Demonstrators and Product Promoters	NA	\$8.64	\$8.14
41-9021	Real Estate Brokers	110	\$37.30	\$33.44
41-9022	Real Estate Sales Agents	750	\$11.95	\$10.11
41-9031	Sales Engineers	350	\$28.63	\$26.14
41-9041	Telemarketers	3,170	\$11.58	\$10.59
41-9091	Door-to-Door Sales Workers, News and Street Vendors, and Related Workers	120	\$9.24	\$8.18
41-9099	Sales and Related Workers, All Other	4,180	\$19.01	\$16.97

Office and Administrative Support Occupations

43-1011	First-Line Supervisors/Managers of Office and Administra- tive Support Workers	13,030	\$17.89	\$16.56
43-2011	Switchboard Operators, Including Answering Service	2,320	\$9.92	\$9.68
43-3021	Billing and Posting Clerks and Machine Operators	5,870	\$12.67	\$11.98
43-3031	Bookkeeping, Accounting, and Auditing Clerks	19,250	\$11.63	\$11.01
43-3051	Payroll and Timekeeping Clerks	1,710	\$13.60	\$13.28
43-3061	Procurement Clerks	940	\$13.09	\$12.67
43-3071	Tellers	6,060	\$9.15	\$8.98
43-4011	Brokerage Clerks	220	\$15.24	\$14.64
43-4021	Correspondence Clerks	220	\$12.25	\$11.90
43-4031	Court, Municipal, and License Clerks	1,230	\$11.57	\$10.83
43-4041	Credit Authorizers, Checkers, and Clerks	530	\$13.67	\$12.63
43-4051	Customer Service Representatives	21,050	\$12.12	\$11.67
43-4061	Eligibility Interviewers, Government Programs	1,130	\$15.20	\$15.35
43-4071	File Clerks	2,410	\$9.53	\$9.11
43-4081	Hotel, Motel, and Resort Desk Clerks	1,720	\$7.47	\$7.50
43-4111	Interviewers, Except Eligibility and Loan	1,690	\$11.15	\$10.57
43-4121	Library Assistants, Clerical	1,120	\$7.83	\$7.22
43-4131	Loan Interviewers and Clerks	1,450	\$11.03	\$10.50
43-4141	New Accounts Clerks	650	\$12.16	\$11.43
43-4151	Order Clerks	3,840	\$12.18	\$11.25
43-4161	Human Resources Assistants, Except Payroll and Time- keeping	1,290	\$14.02	\$13.70
43-4171	Receptionists and Information Clerks	9,490	\$9.62	\$9.53
43-4181	Reservation and Transportation Ticket Agents and Travel Clerks	630	\$9.34	\$9.16
43-4999	All Other Financial, Information, and Record Clerks	2,280	\$12.22	\$11.39
43-5011	Cargo and Freight Agents	280	\$16.17	\$15.44
43-5021	Couriers and Messengers	1,300	\$9.15	\$9.30

Office and Administrative Support Occupations Cont.

<u>Code</u>	<u>Occupational Title</u>	<u>2001 - Q4 Employment</u>	<u>Mean Wage</u>	<u>Median Wage</u>
43-5031	Police, Fire, and Ambulance Dispatchers	1,030	\$10.97	\$10.41
43-5032	Dispatchers, Except Police, Fire, and Ambulance	1,770	\$15.46	\$15.64
43-5041	Meter Readers, Utilities	560	\$11.84	\$11.51
43-5051	Postal Service Clerks	600	\$19.06	\$19.53
43-5052	Postal Service Mail Carriers	3,820	\$18.15	\$19.04
43-5053	Postal Service Mail Sorters, Processors, and Processing Machine Operators	1,810	\$15.05	\$15.20
43-5061	Production, Planning, and Expediting Clerks	2,880	\$16.24	\$15.24
43-5081	Stock Clerks and Order Fillers	19,740	\$10.00	\$8.99
43-5199	All Other Material Recording, Scheduling, Dispatching, and Distributing Workers	630	\$12.61	\$10.95
43-6011	Executive Secretaries and Administrative Assistants	9,630	\$15.45	\$15.12
43-6012	Legal Secretaries	2,160	\$13.34	\$13.03
43-6013	Medical Secretaries	2,160	\$10.53	\$9.93
43-6014	Secretaries, Except Legal, Medical, and Executive	17,470	\$10.78	\$10.45
43-9011	Computer Operators	1,970	\$13.91	\$13.29
43-9021	Data Entry Keyers	6,190	\$10.74	\$10.49
43-9022	Word Processors and Typists	1,410	\$11.22	\$11.01
43-9031	Desktop Publishers	480	\$13.73	\$12.85
43-9041	Insurance Claims and Policy Processing Clerks	2,430	\$14.07	\$12.79
43-9051	Mail Clerks and Mail Machine Operators, Except Postal Service	2,270	\$8.99	\$8.70
43-9061	Office Clerks, General	29,870	\$10.01	\$9.68
43-9071	Office Machine Operators, Except Computer	570	\$9.02	\$8.51
43-9081	Proofreaders and Copy Markers	190	\$10.81	\$10.52
43-9999	All Other Secretaries, Administrative Assistants, and Other Office Support Workers	4,480	\$14.18	\$13.37

Farming, Fishing, and Forestry Occupations

45-1011	First-Line Supervisors/Managers of Farming, Fishing, and Forestry Workers	110	\$17.52	\$16.30
45-2011	Agricultural Inspectors	NA	\$23.80	\$18.37
45-2041	Graders and Sorters, Agricultural Products	220	\$11.23	\$10.95
45-2091	Agricultural Equipment Operators	270	\$11.16	\$10.75
45-2092	Farmworkers and Laborers, Crop, Nursery, and Green- house	360	\$8.11	\$7.54
45-2093	Farmworkers, Farm and Ranch Animals	510	\$7.58	\$7.16
45-9099	Farming, Fishing, and Forestry Workers, All Other	120	\$10.72	\$10.02

Construction and Extraction Occupations

<u>Code</u>	<u>Occupational Title</u>	<u>2001 - Q4 Employment</u>	<u>Mean Wage</u>	<u>Median Wage</u>
47-1011	First-Line Supervisors/Managers of Construction Trades and Extraction Workers	5,490	\$21.04	\$20.42
47-2021	Brickmasons and Blockmasons	850	\$19.60	\$20.05
47-2031	Carpenters	7,730	\$16.05	\$15.26
47-2041	Carpet Installers	550	\$16.65	\$17.13
47-2043	Floor Sanders and Finishers	NA	\$11.82	\$10.60
47-2044	Tile and Marble Setters	280	\$17.21	\$17.34
47-2051	Cement Masons and Concrete Finishers	1,670	\$13.62	\$13.09
47-2061	Construction Laborers	10,020	\$12.20	\$11.17
47-2071	Paving, Surfacing, and Tamping Equipment Operators	640	\$12.11	\$10.85
47-2073	Operating Engineers and Other Construction Equipment Operators	5,350	\$14.19	\$12.73
47-2081	Drywall and Ceiling Tile Installers	800	\$15.98	\$15.70
47-2082	Tapers	230	\$20.28	\$20.83
47-2111	Electricians	6,780	\$18.23	\$17.49
47-2121	Glaziers	500	\$16.00	\$15.29
47-2130	Insulation Workers	310	\$13.54	\$13.19
47-2141	Painters, Construction and Maintenance	2,620	\$13.61	\$12.26
47-2142	Paperhangers	NA	\$17.24	\$19.17
47-2152	Plumbers, Pipefitters, and Steamfitters	4,940	\$18.82	\$17.96
47-2161	Plasterers and Stucco Masons	530	\$16.21	\$15.85
47-2181	Roofers	1,310	\$14.15	\$13.02
47-2221	Structural Iron and Steel Workers	550	\$16.89	\$16.58
47-3011	Helpers—Brickmasons, Blockmasons, Stonemasons, and Tile and Marble Setters	760	\$12.37	\$12.15
47-3012	Helpers—Carpenters	1,230	\$10.43	\$10.41
47-3013	Helpers—Electricians	340	\$10.39	\$10.30
47-3014	Helpers—Painters, Paperhangers, Plasterers, and Stucco Masons	NA	\$11.04	\$10.98
47-3015	Helpers—Pipelayers, Plumbers, Pipefitters, and Steamfitters	490	\$9.82	\$9.70
47-3016	Helpers—Roofers	310	\$9.03	\$8.84
47-3019	Helpers, Construction Trades, All Other	90	\$11.67	\$10.87
47-4011	Construction and Building Inspectors	650	\$17.43	\$17.94
47-4031	Fence Erectors	NA	\$9.87	\$9.34
47-4041	Hazardous Materials Removal Workers	380	\$15.47	\$15.42
47-4051	Highway Maintenance Workers	1,700	\$11.43	\$10.85
47-4071	Septic Tank Servicers and Sewer Pipe Cleaners	NA	\$15.17	\$13.81
47-4999	All Other Construction Trades and Related Workers	850	\$12.13	\$10.82
47-5011	Derrick Operators, Oil and Gas	360	\$12.16	\$11.87
47-5013	Service Unit Operators, Oil, Gas, and Mining	580	\$14.08	\$13.06
47-5021	Earth Drillers, Except Oil and Gas	170	\$12.19	\$12.10
47-5081	Helpers—Extraction Workers	810	\$10.30	\$9.81

Installation, Maintenance, and Repair Occupations

<u>Code</u>	<u>Occupational Title</u>	<u>2001 - Q4 Employment</u>	<u>Mean Wage</u>	<u>Median Wage</u>
49-1011	First-Line Supervisors/Managers of Mechanics, Installers, and Repairers	5,090	\$22.18	\$21.25
49-2011	Computer, Automated Teller, and Office Machine Repairers	2,250	\$16.88	\$15.78
49-2022	Telecommunications Equipment Installers and Repairers, Except Line Installers	2,440	\$19.71	\$20.49
49-2092	Electric Motor, Power Tool, and Related Repairers	270	\$14.98	\$14.25
49-2094	Electrical and Electronics Repairers, Commercial and Industrial Equipment	610	\$20.59	\$21.27
49-2096	Electronic Equipment Installers and Repairers, Motor Vehicles	90	\$9.91	\$9.81
49-2099	All Other Electrical and Electronic Equipment Mechanics, Installers, and Repairers	360	\$22.31	\$23.78
49-3021	Automotive Body and Related Repairers	1,290	\$16.18	\$14.89
49-3022	Automotive Glass Installers and Repairers	NA	\$15.41	\$16.04
49-3023	Automotive Service Technicians and Mechanics	7,630	\$14.69	\$13.81
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	3,820	\$15.23	\$14.70
49-3041	Farm Equipment Mechanics	1,510	\$12.33	\$11.38
49-3042	Mobile Heavy Equipment Mechanics, Except Engines	1,930	\$15.53	\$15.40
49-3051	Motorboat Mechanics	120	\$11.91	\$11.22
49-3052	Motorcycle Mechanics	80	\$12.74	\$12.87
49-3053	Outdoor Power Equipment and Other Small Engine Mechanics	NA	\$10.51	\$11.15
49-3093	Tire Repairers and Changers	790	\$9.86	\$9.29
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	1,760	\$16.62	\$16.10
49-9031	Home Appliance Repairers	330	\$13.59	\$13.07
49-9041	Industrial Machinery Mechanics	2,340	\$16.44	\$16.09
49-9042	Maintenance and Repair Workers, General	13,380	\$13.64	\$12.69
49-9043	Maintenance Workers, Machinery	1,130	\$14.43	\$14.03
49-9044	Millwrights	460	\$20.78	\$21.00
49-9052	Telecommunications Line Installers and Repairers	2,950	\$21.97	\$24.26
49-9069	Precision Instrument and Equipment Repairers, All Other	210	\$13.83	\$12.77
49-9091	Coin, Vending, and Amusement Machine Servicers and Repairers	170	\$12.60	\$12.70
49-9093	Fabric Menders, Except Garment	20	\$11.52	\$9.92
49-9094	Locksmiths and Safe Repairers	60	\$13.96	\$13.26
49-9098	Helpers—Installation, Maintenance, and Repair Workers	1,340	\$10.02	\$9.25
49-9099	Installation, Maintenance, and Repair Workers, All Other	1,260	\$14.72	\$14.16

Production Occupations

<u>Code</u>	<u>Occupational Title</u>	<u>2001 - Q4 Employment</u>	<u>Mean Wage</u>	<u>Median Wage</u>
51-1011	First-Line Supervisors/Managers of Production and Operating Workers	9,790	\$21.85	\$21.25
51-2022	Electrical and Electronic Equipment Assemblers	4,810	\$10.40	\$9.65
51-2041	Structural Metal Fabricators and Fitters	1,150	\$12.28	\$12.00
51-2092	Team Assemblers	12,360	\$11.02	\$9.88
51-3011	Bakers	1,170	\$10.17	\$9.79
51-3021	Butchers and Meat Cutters	1,540	\$11.88	\$11.28
51-3091	Food and Tobacco Roasting, Baking, and Drying Machine Operators and Tenders	40	\$9.21	\$9.64
51-3093	Food Cooking Machine Operators and Tenders	360	\$9.87	\$9.40
51-4012	Numerical Tool and Process Control Programmers	250	\$17.97	\$17.38
51-4021	Extruding and Drawing Machine Setters, Operators, and Tenders, Metal and Plastic	1,790	\$14.30	\$11.97
51-4031	Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic	3,100	\$12.91	\$11.47
51-4033	Grinding, Lapping, Polishing, and Buffing Machine Tool Setters, Operators, and Tenders, Metal and Plastic	1,270	\$14.65	\$13.13
51-4034	Lathe and Turning Machine Tool Setters, Operators, and Tenders, Metal and Plastic	900	\$13.11	\$11.04
51-4041	Machinists	3,980	\$15.03	\$14.64
51-4072	Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders, Metal and Plastic	1,040	\$11.02	\$10.74
51-4081	Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic	1,110	\$12.44	\$12.38
51-4121	Welders, Cutters, Solderers, and Brazers	6,440	\$13.31	\$12.50
51-4122	Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders	730	\$14.90	\$11.99
51-4192	Lay-Out Workers, Metal and Plastic	NA	\$11.44	\$10.58
51-4193	Plating and Coating Machine Setters, Operators, and Tenders, Metal and Plastic	470	\$12.14	\$11.21
51-5011	Bindery Workers	1,050	\$9.73	\$9.10
51-5012	Bookbinders	170	\$15.84	\$16.23
51-5021	Job Printers	490	\$12.03	\$12.00
51-5022	Prepress Technicians and Workers	1,330	\$13.95	\$13.34
51-5023	Printing Machine Operators	6,680	\$13.29	\$12.82
51-6011	Laundry and Dry-Cleaning Workers	1,930	\$7.25	\$6.96
51-6021	Pressers, Textile, Garment, and Related Materials	710	\$8.34	\$8.34
51-6031	Sewing Machine Operators	1,710	\$9.03	\$8.73
51-6052	Tailors, Dressmakers, and Custom Sewers	250	\$9.26	\$8.97
51-6092	Fabric and Apparel Patternmakers	50	\$11.72	\$11.07

Production Occupations Cont.

<u>Code</u>	<u>Occupational Title</u>	<u>2001 - Q4 Employment</u>	<u>Mean Wage</u>	<u>Median Wage</u>
51-6093	Upholsterers	120	\$12.37	\$11.60
51-6099	Textile, Apparel, and Furnishings Workers, All Other	140	\$9.92	\$9.38
51-7011	Cabinetmakers and Bench Carpenters	1,270	\$11.34	\$11.05
51-7041	Sawing Machine Setters, Operators, and Tenders, Wood	370	\$9.19	\$9.02
51-7042	Woodworking Machine Setters, Operators, and Tenders, Except Sawing	840	\$9.19	\$8.75
51-8021	Stationary Engineers and Boiler Operators	420	\$20.47	\$19.68
51-8031	Water and Liquid Waste Treatment Plant and System Operators	690	\$13.34	\$12.54
51-8091	Chemical Plant and System Operators	450	\$16.69	\$17.44
51-9012	Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters	350	\$11.77	\$12.01
51-9021	Crushing, Grinding, and Polishing Machine Setters, Operators, and Tenders	510	\$11.48	\$11.17
51-9023	Mixing and Blending Machine Setters, Operators, and Tenders	1,730	\$12.58	\$12.42
51-9031	Cutters and Trimmers, Hand	230	\$9.88	\$9.81
51-9032	Cutting and Slicing Machine Setters, Operators, and Tenders	790	\$11.06	\$10.63
51-9051	Furnace, Kiln, Oven, Drier, and Kettle Operators and Tenders	240	\$12.91	\$12.45
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	5,360	\$15.34	\$14.54
51-9071	Jewelers and Precious Stone and Metal Workers	70	\$14.24	\$15.25
51-9081	Dental Laboratory Technicians	800	\$13.59	\$12.43
51-9082	Medical Appliance Technicians	NA	\$6.89	\$6.63
51-9083	Ophthalmic Laboratory Technicians	310	\$10.75	\$10.72
51-9111	Packaging and Filling Machine Operators and Tenders	3,710	\$12.22	\$11.47
51-9123	Painting, Coating, and Decorating Workers	NA	\$9.85	\$9.78
51-9191	Cementing and Gluing Machine Operators and Tenders	390	\$12.63	\$10.33
51-9195	Molders, Shapers, and Casters, Except Metal and Plastic	180	\$9.64	\$9.25
51-9198	Helpers—Production Workers	6,410	\$10.03	\$9.79
Transportation and Material Moving Occupations				
53-1011	Aircraft Cargo Handling Supervisors	90	\$20.93	\$19.96
53-1021	First-Line Supervisors/Managers of Helpers, Laborers, and Material Movers, Hand	1,210	\$16.71	\$16.46
53-1031	First-Line Supervisors/Managers of Transportation and Material-Moving Machine and Vehicle	2,150	\$20.83	\$18.12
53-2021	Air Traffic Controllers	520	\$42.78	\$47.31
53-3022	Bus Drivers, School	5,920	\$10.55	\$10.28
53-3031	Driver/Sales Workers	4,650	\$11.41	\$10.37

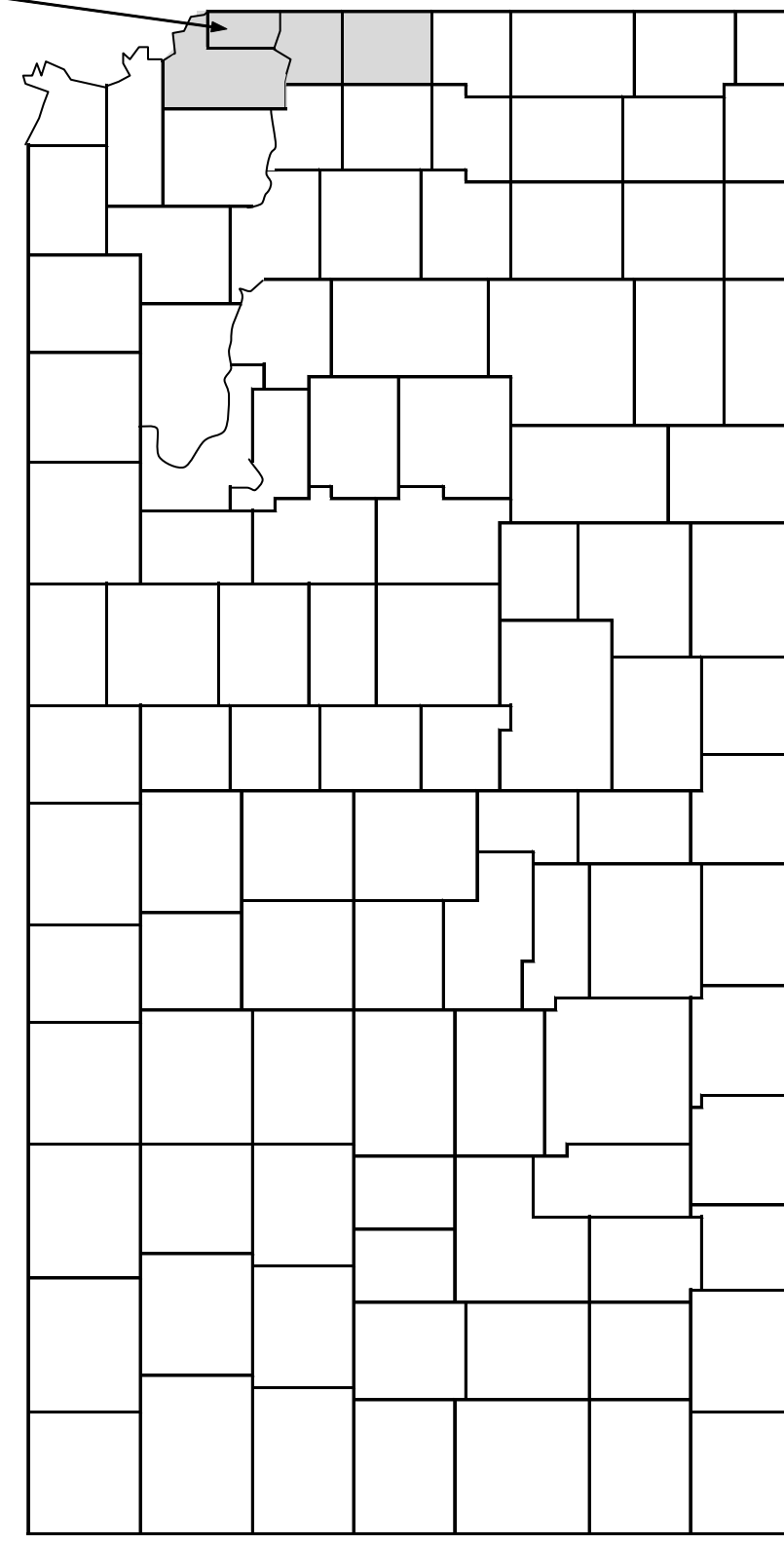
Transportation and Material Moving Occupations Cont.

<u>Code</u>	<u>Occupational Title</u>	<u>2001 - Q4 Employment</u>	<u>Mean Wage</u>	<u>Median Wage</u>
53-3032	Truck Drivers, Heavy and Tractor-Trailer	19,100	\$15.97	\$15.96
53-3033	Truck Drivers, Light or Delivery Services	13,460	\$11.62	\$10.51
53-3041	Taxi Drivers and Chauffeurs	780	\$8.24	\$7.36
53-3099	Motor Vehicle Operators, All Other	590	\$10.39	\$8.02
53-6031	Service Station Attendants	2,050	\$8.41	\$8.15
53-7011	Conveyor Operators and Tenders	1,730	\$10.37	\$10.20
53-7021	Crane and Tower Operators	440	\$17.09	\$15.73
53-7031	Dredge Operators	60	\$13.20	\$11.15
53-7032	Excavating and Loading Machine and Dragline Operators	890	\$14.37	\$13.47
53-7041	Hoist and Winch Operators	70	\$11.98	\$11.45
53-7051	Industrial Truck and Tractor Operators	6,390	\$11.78	\$11.85
53-7061	Cleaners of Vehicles and Equipment	2,230	\$8.22	\$8.03
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	18,580	\$9.65	\$9.07
53-7063	Machine Feeders and Offbearers	1,850	\$11.12	\$11.10
53-7064	Packers and Packagers, Hand	9,230	\$8.22	\$7.55
53-7071	Gas Compressor and Gas Pumping Station Operators	NA	\$21.68	\$21.27
53-7073	Wellhead Pumpers	NA	\$12.66	\$12.55

NA - Not Available

KANSAS CITY MSA (1)
1998 Kansas OES Wage Survey

Kansas City MSA (1)



Counties Included:

- Johnson
- Leavenworth
- Miami
- Wyandotte

Kansas City MSA Wages

Management Occupations

<u>Code</u>	<u>Occupational Title</u>	<u>2001 - Q4 Employment</u>	<u>Mean Wage</u>	<u>Median Wage</u>
11-1011	Chief Executives	4,150	\$59.01	\$59.65
11-1021	General and Operations Managers	21,240	\$38.61	\$35.77
11-2011	Advertising and Promotions Managers	820	\$28.01	\$27.62
11-2021	Marketing Managers	2,260	\$34.84	\$34.09
11-2022	Sales Managers	3,750	\$39.37	\$38.61
11-2031	Public Relations Managers	560	\$35.14	\$31.70
11-3011	Administrative Services Managers	2,310	\$28.90	\$24.93
11-3021	Computer and Information Systems Managers	3,080	\$40.05	\$40.34
11-3031	Financial Managers	4,730	\$34.67	\$31.93
11-3040	Human Resources Managers	2,080	\$32.40	\$31.06
11-3051	Industrial Production Managers	1,400	\$35.46	\$35.90
11-3061	Purchasing Managers	1,000	\$29.78	\$28.20
11-3071	Transportation, Storage, and Distribution Managers	1,000	\$31.36	\$30.05
11-9021	Construction Managers	2,070	\$29.99	\$29.92
11-9031	Education Administrators, Preschool and Child Care Center/Program	340	\$14.37	\$13.15
11-9041	Engineering Managers	1,660	\$38.62	\$37.83
11-9051	Food Service Managers	2,150	\$16.78	\$14.71
11-9081	Lodging Managers	280	\$15.36	\$14.16
11-9121	Natural Sciences Managers	190	\$39.10	\$38.98
11-9131	Postmasters and Mail Superintendents	90	\$27.80	\$29.33
11-9199	Managers, All Other	3,950	\$28.58	\$26.47

Business and Financial Operations Occupations

13-1022	Wholesale and Retail Buyers, Except Farm Products	1,650	\$19.52	\$18.50
13-1023	Purchasing Agents, Except Wholesale, Retail, and Farm Products	2,200	\$20.02	\$19.80
13-1031	Claims Adjusters, Examiners, and Investigators	NA	\$24.86	\$23.59
13-1032	Insurance Appraisers, Auto Damage	840	\$11.23	\$10.38
13-1041	Compliance Officers, Except Agriculture, Construction, Health and Safety, and Transportation	1,560	\$24.97	\$21.98
13-1051	Cost Estimators	1,750	\$23.31	\$22.16
13-1071	Employment, Recruitment, and Placement Specialists	1,090	\$22.77	\$19.85
13-1072	Compensation, Benefits, and Job Analysis Specialists	1,750	\$20.88	\$19.08
13-1073	Training and Development Specialists	2,560	\$22.10	\$20.97
13-1111	Management Analysts	5,540	\$30.28	\$26.51
13-1199	Business Operations Specialists, All Other	7,190	\$24.47	\$23.22
13-2011	Accountants and Auditors	NA	\$21.81	\$20.75
13-2021	Appraisers and Assessors of Real Estate	510	\$25.07	\$21.62
13-2031	Budget Analysts	730	\$27.00	\$25.84
13-2041	Credit Analysts	330	\$21.77	\$20.51
13-2061	Financial Examiners	NA	\$30.94	\$31.62
13-2071	Loan Counselors	1,710	\$12.73	\$12.59
13-2072	Loan Officers	790	\$23.53	\$21.97

Computer and Mathematical Science Occupations

<u>Code</u>	<u>Occupational Title</u>	<u>2001 - Q4 Employment</u>	<u>Mean Wage</u>	<u>Median Wage</u>
15-1011	Computer and Information Scientists, Research	NA	\$34.24	\$34.22
15-1021	Computer Programmers	4,930	\$30.09	\$28.28
15-1031	Computer Software Engineers, Applications	3,980	\$27.11	\$26.53
15-1041	Computer Support Specialists	4,820	\$23.20	\$22.91
15-1051	Computer Systems Analysts	6,390	\$29.91	\$29.11
15-1061	Database Administrators	1,000	\$30.46	\$30.53
15-1071	Network and Computer Systems Administrators	3,850	\$22.61	\$20.91
15-1081	Network Systems and Data Communications Analysts	1,070	\$28.19	\$27.12
15-1099	Computer Specialists, All Other	NA	\$25.19	\$20.97
15-2011	Actuaries	240	\$40.01	\$35.73

Architecture and Engineering Occupations

17-1011	Architects, Except Landscape and Naval	800	\$33.61	\$34.02
17-1012	Landscape Architects	130	\$19.48	\$18.10
17-1022	Surveyors	350	\$16.30	\$16.12
17-2051	Civil Engineers	2,150	\$25.26	\$23.36
17-2071	Electrical Engineers	1,680	\$27.47	\$26.70
17-2111	Health and Safety Engineers, Except Mining Safety Engineers and Inspectors	320	\$29.11	\$28.34
17-2141	Mechanical Engineers	1,640	\$26.81	\$26.10
17-3011	Architectural and Civil Drafters	830	\$18.89	\$18.64
17-3012	Electrical and Electronics Drafters	200	\$15.05	\$14.61
17-3013	Mechanical Drafters	390	\$19.06	\$17.68
17-3022	Civil Engineering Technicians	900	\$16.74	\$16.33
17-3023	Electrical and Electronic Engineering Technicians	1,340	\$15.65	\$14.38
17-3025	Environmental Engineering Technicians	90	\$18.47	\$18.09
17-3027	Mechanical Engineering Technicians	330	\$18.04	\$18.92
17-3031	Surveying and Mapping Technicians	570	\$14.98	\$13.99
17-3099	All Other Drafters, Engineering, and Mapping Technicians	1,110	\$15.21	\$13.97

Life, Physical, and Social Science Occupations

19-1010	Agricultural and Food Scientists	110	\$25.67	\$25.69
19-2031	Chemists	600	\$23.84	\$22.65
19-2041	Environmental Scientists and Specialists, Including Health	310	\$24.44	\$24.49
19-2042	Geoscientists, Except Hydrologists and Geographers	50	\$25.68	\$25.71
19-2099	Physical Scientists, All Other	230	\$30.71	\$30.80
19-3021	Market Research Analysts	1,090	\$23.89	\$22.48
19-3099	Social Scientists and Related Workers, All Other	390	\$27.65	\$28.97
19-4031	Chemical Technicians	460	\$14.62	\$13.58

Community and Social Services Occupations

<u>Code</u>	<u>Occupational Title</u>	<u>2001 - Q4 Employment</u>	<u>Mean Wage</u>	<u>Median Wage</u>
21-1011	Substance Abuse and Behavioral Disorder Counselors	NA	\$14.14	\$14.51
21-1012	Educational, Vocational, and School Counselors	1,280	\$19.44	\$20.05
21-1014	Mental Health Counselors	150	\$18.56	\$19.30
21-1015	Rehabilitation Counselors	390	\$12.00	\$11.79
21-1021	Child, Family, and School Social Workers	750	\$12.97	\$12.00
21-1093	Social and Human Service Assistants	1,070	\$10.65	\$10.44

Legal Occupations

23-1011	Lawyers	5,070	\$47.39	\$44.36
23-1023	Judges, Magistrate Judges, and Magistrates	100	\$44.12	\$48.99
23-2011	Paralegals and Legal Assistants	1,540	\$16.58	\$15.64
23-2092	Law Clerks	NA	\$11.22	\$10.99
23-2093	Title Examiners, Abstractors, and Searchers	270	\$14.31	\$14.07
23-9099	All Other Legal and Related Workers	1,580	\$17.33	\$17.21

Education, Training, and Library Occupations

25-1194	Vocational Education Teachers, Postsecondary	480	\$16.30	\$16.65
25-2011	Preschool Teachers, Except Special Education	2,220	\$10.09	\$9.99
25-2032	Vocational Education Teachers, Secondary School	1,110	NA	NA
25-2042	Special Education Teachers, Middle School	480	NA	NA
25-3011	Adult Literacy, Remedial Education, and GED Teachers and Instructors	360	\$16.56	\$14.26
25-4010	Archivists, Curators, and Museum Technicians	130	\$12.89	\$11.72
25-4021	Librarians	990	\$19.42	\$19.78
25-9031	Instructional Coordinators	510	\$28.78	\$28.66

Arts, Design, Entertainment, Sports, and Media Occupations

27-1011	Art Directors	220	\$25.52	\$24.04
27-1023	Floral Designers	630	\$9.66	\$9.54
27-1024	Graphic Designers	1,570	\$16.52	\$16.15
27-1026	Merchandise Displayers and Window Trimmers	410	\$10.25	\$10.35
27-1099	All Other Art and Design Workers	160	\$17.38	\$17.65
27-2012	Producers and Directors	450	NA	NA
27-3010	Announcers	270	\$7.75	\$6.79
27-3020	News Analysts, Reporters and Correspondents	460	\$12.81	\$10.55
27-3031	Public Relations Specialists	1,210	\$18.09	\$13.87
27-4012	Broadcast Technicians	160	\$24.01	\$21.18
27-4021	Photographers	460	\$11.10	\$11.38

Healthcare Practitioners and Technical Occupations

<u>Code</u>	<u>Occupational Title</u>	<u>2001 - Q4 Employment</u>	<u>Mean Wage</u>	<u>Median Wage</u>
29-1020	Dentists	NA	\$52.87	\$53.88
29-1071	Physician Assistants	NA	\$35.76	\$38.00
29-1127	Speech-Language Pathologists	620	\$22.14	\$21.24
29-1131	Veterinarians	390	\$28.09	\$26.24
29-2021	Dental Hygienists	1,600	\$24.92	\$25.10
29-2052	Pharmacy Technicians	1,290	\$9.65	\$9.43
29-2061	Licensed Practical and Licensed Vocational Nurses	4,850	\$16.96	\$16.62
29-2071	Medical Records and Health Information Technicians	1,270	\$13.61	\$13.52
29-2081	Opticians, Dispensing	240	\$10.44	\$9.17

Healthcare Support Occupations

31-1012	Nursing Aides, Orderlies, and Attendants	8,690	\$10.08	\$10.05
31-1013	Psychiatric Aides	400	\$9.81	\$9.73
31-9091	Dental Assistants	1,810	\$15.17	\$15.45
31-9095	Pharmacy Aides	380	\$8.75	\$8.92
31-9096	Veterinary Assistants and Laboratory Animal Caretakers	460	\$8.55	\$8.13

Protective Service Occupations

33-1011	First-Line Supervisors/Managers of Correctional Officers	70	\$24.79	\$25.20
33-1099	First-Line Supervisors/Managers, Protective Service Workers, All Other	340	\$19.19	\$18.70
33-2011	Fire Fighters	1,370	\$17.63	\$16.65
33-3012	Correctional Officers and Jailers	1,450	NA	NA
33-3021	Detectives and Criminal Investigators	580	\$28.63	\$28.32
33-3051	Police and Sheriff's Patrol Officers	3,340	\$19.44	\$18.97
33-9032	Security Guards	9,010	\$10.86	\$8.79

Food Preparation and Serving-Related Occupations

35-1011	Chefs and Head Cooks	640	\$14.76	\$11.99
35-1012	First-Line Supervisors/Managers of Food Preparation and Serving Workers	4,550	\$12.26	\$10.94
35-2011	Cooks, Fast Food	NA	\$6.95	\$6.71
35-2012	Cooks, Institution and Cafeteria	2,550	\$9.39	\$9.33
35-2014	Cooks, Restaurant	4,220	\$8.86	\$8.90
35-2015	Cooks, Short Order	830	\$8.17	\$8.10
35-2021	Food Preparation Workers	3,500	\$7.91	\$7.88
35-3011	Bartenders	NA	\$7.19	\$6.65
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	23,320	\$7.52	\$7.47
35-3031	Waiters and Waitresses	19,140	\$7.29	\$6.60
35-3041	Food Servers, Nonrestaurant	2,320	\$6.62	\$6.56

Food Preparation and Serving-Related Occupations

<u>Code</u>	<u>Occupational Title</u>	<u>2001 - Q4 Employment</u>	<u>Mean Wage</u>	<u>Median Wage</u>
35-9011	Dining Room and Cafeteria Attendants and Bartender Helpers	2,680	\$7.11	\$7.08
35-9021	Dishwashers	3,040	\$7.04	\$6.99
35-9031	Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop	2,440	\$7.49	\$7.52

Building and Grounds Cleaning and Maintenance Occupations

37-1011	First-Line Supervisors/Managers of Housekeeping and Janitorial Workers	1,560	\$13.63	\$12.60
37-1012	First-Line Supervisors/Managers of Landscaping, Lawn Service, and Groundskeeping Workers	760	\$16.45	\$14.39
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	13,510	\$8.99	\$8.72
37-3011	Landscaping and Groundskeeping Workers	4,430	\$10.21	\$9.82

Personal Care and Service Occupations

39-1021	First-Line Supervisors/Managers of Personal Service Workers	490	\$13.22	\$12.49
39-2021	Nonfarm Animal Caretakers	1,010	\$8.30	\$7.98
39-3091	Amusement and Recreation Attendants	1,790	\$9.04	\$9.08
39-5093	Shampooers	NA	\$6.42	\$6.55
39-5094	Skin Care Specialists	NA	\$13.38	\$13.14
39-9011	Child Care Workers	3,290	\$7.88	\$7.83
39-9031	Fitness Trainers and Aerobics Instructors	1,000	\$11.35	\$10.32

Sales and Related Occupations

41-1011	First-Line Supervisors/Managers of Retail Sales Workers	9,950	\$15.19	\$13.51
41-1012	First-Line Supervisors/Managers of Non-Retail Sales Workers	2,770	\$26.64	\$24.91
41-2011	Cashiers	23,170	\$7.49	\$7.36
41-2021	Counter and Rental Clerks	3,320	\$8.66	\$7.91
41-2022	Parts Salespersons	1,930	\$10.66	\$10.43
41-2031	Retail Salespersons	28,050	\$10.26	\$8.32
41-3011	Advertising Sales Agents	1,180	\$17.22	\$15.41
41-3041	Travel Agents	1,520	\$13.61	\$13.06
41-3099	Sales Representatives, Services, All Other	NA	\$25.19	\$23.19
41-4011	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	3,810	\$27.16	\$25.13
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	12,650	\$24.84	\$23.22
41-9031	Sales Engineers	420	\$29.46	\$26.56
41-9041	Telemarketers	4,670	\$12.32	\$10.93
41-9099	Sales and Related Workers, All Other	4,250	\$21.53	\$19.18

Office and Administrative Support Occupations

<u>Code</u>	<u>Occupational Title</u>	<u>2001 - Q4 Employment</u>	<u>Mean Wage</u>	<u>Median Wage</u>
43-1011	First-Line Supervisors/Managers of Office and Administrative Support Workers	10,910	\$20.23	\$19.42
43-2011	Switchboard Operators, Including Answering Service	2,120	\$10.54	\$10.34
43-3021	Billing and Posting Clerks and Machine Operators	4,750	\$14.05	\$13.07
43-3031	Bookkeeping, Accounting, and Auditing Clerks	11,090	\$13.45	\$13.06
43-3051	Payroll and Timekeeping Clerks	1,300	\$14.70	\$14.80
43-3061	Procurement Clerks	540	\$12.90	\$12.70
43-3071	Tellers	3,030	\$9.45	\$9.55
43-4011	Brokerage Clerks	570	\$16.36	\$15.75
43-4021	Correspondence Clerks	610	\$12.75	\$12.36
43-4031	Court, Municipal, and License Clerks	NA	\$12.30	\$11.71
43-4041	Credit Authorizers, Checkers, and Clerks	860	\$13.36	\$12.28
43-4051	Customer Service Representatives	24,610	\$12.21	\$11.91
43-4061	Eligibility Interviewers, Government Programs	290	\$14.72	\$14.91
43-4071	File Clerks	1,850	\$10.97	\$10.48
43-4131	Loan Interviewers and Clerks	910	\$13.03	\$12.36
43-4141	New Accounts Clerks	800	\$11.45	\$11.38
43-4151	Order Clerks	3,510	\$12.28	\$11.74
43-4161	Human Resources Assistants, Except Payroll and Time-keeping	1,350	\$14.63	\$14.63
43-4171	Receptionists and Information Clerks	7,170	\$10.57	\$10.51
43-4999	All Other Financial, Information, and Record Clerks	1,360	\$13.43	\$13.34
43-5011	Cargo and Freight Agents	430	\$18.11	\$17.09
43-5021	Couriers and Messengers	1,060	\$9.81	\$9.81
43-5032	Dispatchers, Except Police, Fire, and Ambulance	1,440	\$16.78	\$17.37
43-5051	Postal Service Clerks	640	\$19.40	\$19.80
43-5052	Postal Service Mail Carriers	2,440	\$18.52	\$19.28
43-5053	Postal Service Mail Sorters, Processors, and Processing Machine Operators	2,720	\$16.83	\$18.21
43-5061	Production, Planning, and Expediting Clerks	1,860	\$15.98	\$14.97
43-5071	Shipping, Receiving, and Traffic Clerks	5,990	\$11.49	\$10.81
43-5081	Stock Clerks and Order Fillers	14,470	\$10.29	\$9.62
43-6011	Executive Secretaries and Administrative Assistants	8,710	\$16.16	\$15.92
43-6012	Legal Secretaries	1,880	\$15.79	\$15.73
43-6014	Secretaries, Except Legal, Medical, and Executive	11,900	\$12.40	\$12.09
43-9011	Computer Operators	2,080	\$15.07	\$14.48
43-9021	Data Entry Keyers	4,590	\$11.07	\$10.60
43-9022	Word Processors and Typists	1,400	\$12.42	\$12.12
43-9031	Desktop Publishers	310	\$15.46	\$16.04
43-9041	Insurance Claims and Policy Processing Clerks	2,850	\$16.60	\$15.31

Office and Administrative Support Occupations

<u>Code</u>	<u>Occupational Title</u>	<u>2001 - Q4 Employment</u>	<u>Mean Wage</u>	<u>Median Wage</u>
43-9051	Mail Clerks and Mail Machine Operators, Except Postal Service	2,130	\$9.92	\$9.96
43-9061	Office Clerks, General	19,560	\$11.67	\$11.60
43-9071	Office Machine Operators, Except Computer	550	\$10.75	\$10.41
43-9999	All Other Secretaries, Administrative Assistants, and Other Office Support	4,420	\$15.86	\$15.31

Construction and Extraction Occupations

47-1011	First-Line Supervisors/Managers of Construction Trades and Extraction Workers	4,760	\$24.82	\$24.63
47-2031	Carpenters	6,120	\$19.77	\$19.88
47-2041	Carpet Installers	360	\$18.02	\$19.30
47-2051	Cement Masons and Concrete Finishers	1,060	\$18.56	\$18.98
47-2061	Construction Laborers	6,850	\$15.67	\$15.28
47-2071	Paving, Surfacing, and Tamping Equipment Operators	320	\$16.20	\$15.63
47-2073	Operating Engineers and Other Construction Equipment Operators	3,120	\$20.11	\$20.84
47-2111	Electricians	5,450	\$19.20	\$17.54
47-2141	Painters, Construction and Maintenance	2,070	\$15.17	\$13.50
47-2152	Plumbers, Pipefitters, and Steamfitters	4,380	\$19.62	\$17.42
47-2161	Plasterers and Stucco Masons	350	\$16.21	\$16.09
47-2181	Roofers	760	\$17.52	\$16.16
47-2211	Sheet Metal Workers	2,680	\$22.08	\$25.07
47-3012	Helpers—Carpenters	280	\$11.90	\$12.14
47-3014	Helpers—Painters, Paperhangers, Plasterers, and Stucco Masons	NA	\$11.96	\$12.09
47-3015	Helpers—Pipelayers, Plumbers, Pipefitters, and Steamfitters	NA	\$10.00	\$10.17
47-4011	Construction and Building Inspectors	400	\$17.86	\$18.30
47-4999	All Other Construction Trades and Related Workers	150	\$16.29	\$15.28

Installation, Maintenance, and Repair Occupations

49-1011	First-Line Supervisors/Managers of Mechanics, Installers, and Repairers	3,910	\$24.34	\$22.46
49-2011	Computer, Automated Teller, and Office Machine Repairers	1,410	\$18.09	\$17.03
49-2096	Electronic Equipment Installers and Repairers, Motor Vehicles	NA	\$9.96	\$10.03
49-3021	Automotive Body and Related Repairers	970	\$17.90	\$16.48
49-3022	Automotive Glass Installers and Repairers	210	\$12.95	\$13.08
49-3023	Automotive Service Technicians and Mechanics	5,090	\$15.25	\$13.59
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	2,890	\$15.14	\$14.70

Installation, Maintenance, and Repair Occupations Cont.

<u>Code</u>	<u>Occupational Title</u>	<u>2001 - Q4 Employment</u>	<u>Mean Wage</u>	<u>Median Wage</u>
49-3053	Outdoor Power Equipment and Other Small Engine Mechanics	250	\$11.61	\$10.88
49-3093	Tire Repairers and Changers	410	\$9.25	\$8.84
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	910	\$15.97	\$15.80
49-9041	Industrial Machinery Mechanics	940	\$18.87	\$17.71
49-9042	Maintenance and Repair Workers, General	8,000	\$15.37	\$14.86
49-9043	Maintenance Workers, Machinery	530	\$12.95	\$12.52
49-9044	Millwrights	570	\$21.90	\$22.06
49-9052	Telecommunications Line Installers and Repairers	1,750	\$21.51	\$24.13
49-9091	Coin, Vending, and Amusement Machine Servicers and Repairers	200	\$14.76	\$15.26
49-9098	Helpers—Installation, Maintenance, and Repair Workers	1,310	\$10.51	\$9.27
49-9099	Installation, Maintenance, and Repair Workers, All Other	990	\$17.04	\$18.44

Production Occupations

51-1011	First-Line Supervisors/Managers of Production and Operating Workers	4,830	\$23.17	\$22.03
51-2041	Structural Metal Fabricators and Fitters	830	\$11.64	\$10.98
51-2092	Team Assemblers	7,500	\$12.08	\$11.88
51-3099	All Other Food Processing Workers	410	\$7.46	\$6.95
51-4031	Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic	1,690	\$12.01	\$12.44
51-4033	Grinding, Lapping, Polishing, and Buffing Machine Tool Setters, Operators, and Tenders, Metal and Plastic	290	\$13.09	\$13.50
51-4041	Machinists	2,060	\$14.92	\$15.60
51-4121	Welders, Cutters, Solderers, and Brazers	2,640	\$13.48	\$13.11
51-5021	Job Printers	NA	\$12.12	\$12.02
51-5022	Prepress Technicians and Workers	1,780	\$15.01	\$13.64
51-5023	Printing Machine Operators	3,200	\$15.90	\$15.35
51-6011	Laundry and Dry-Cleaning Workers	910	\$8.22	\$7.85
51-6021	Pressers, Textile, Garment, and Related Materials	780	\$9.12	\$9.36
51-6052	Tailors, Dressmakers, and Custom Sewers	180	\$10.79	\$10.17
51-7011	Cabinetmakers and Bench Carpenters	980	\$11.34	\$10.98
51-9022	Grinding and Polishing Workers, Hand	NA	\$9.90	\$10.08
51-9023	Mixing and Blending Machine Setters, Operators, and Tenders	1,040	\$12.68	\$12.10
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	3,120	\$15.07	\$14.01
51-9071	Jewelers and Precious Stone and Metal Workers	40	\$14.37	\$15.40
51-9111	Packaging and Filling Machine Operators and Tenders	3,350	\$12.37	\$10.94

Production Occupations

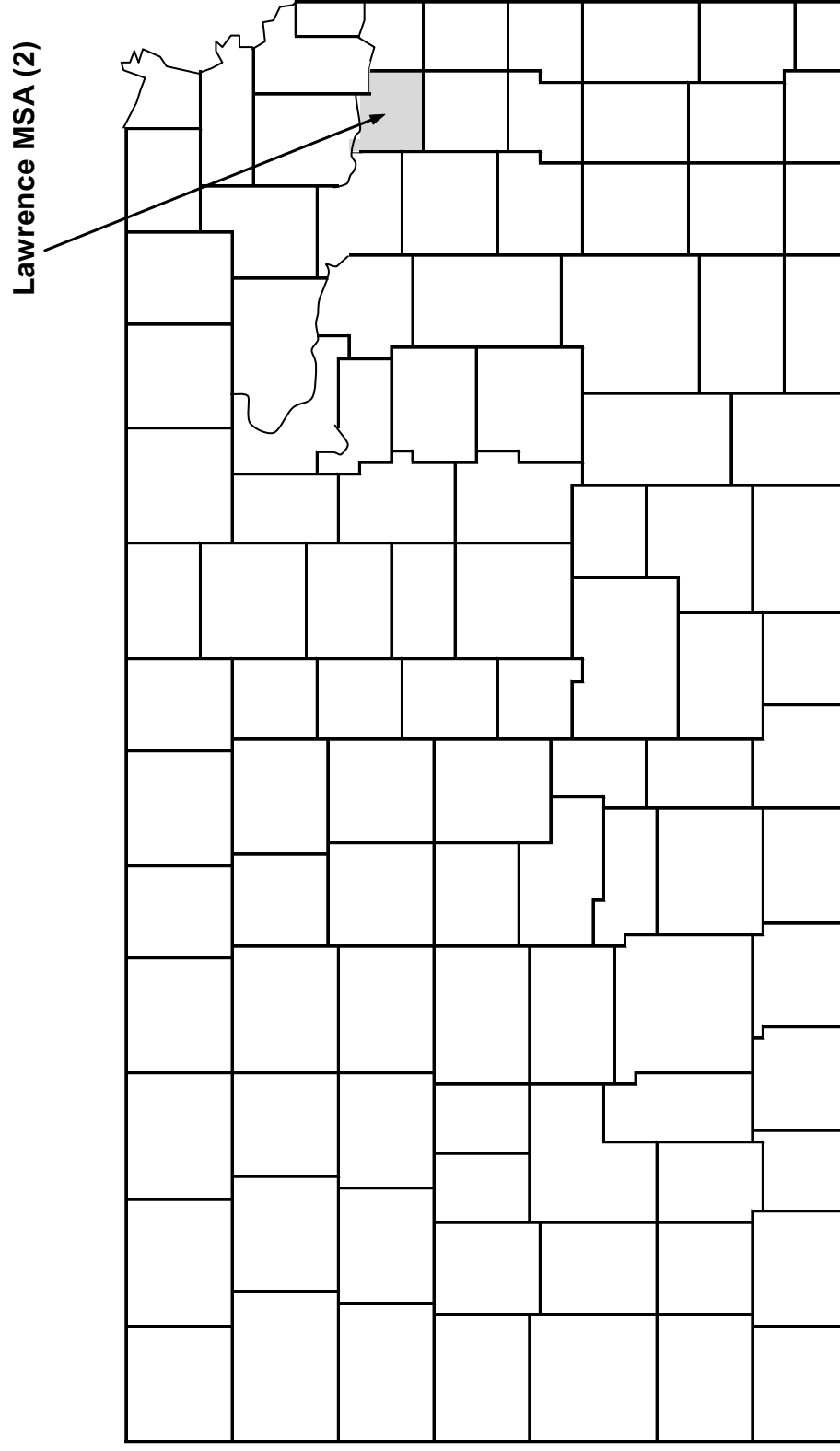
<u>Code</u>	<u>Occupational Title</u>	<u>2001 - Q4 Employment</u>	<u>Mean Wage</u>	<u>Median Wage</u>
51-9121	Coating, Painting, and Spraying Machine Setters, Operators, and Tenders	550	\$12.05	\$11.45
51-9122	Painters, Transportation Equipment	410	\$20.52	\$20.79
51-9123	Painting, Coating, and Decorating Workers	50	\$12.63	\$12.74
51-9191	Cementing and Gluing Machine Operators and Tenders	280	\$10.06	\$ 9.85
51-9192	Cleaning, Washing, and Metal Pickling Equipment Operators and Tenders	70	\$12.66	\$12.65
51-9196	Paper Goods Machine Setters, Operators, and Tenders	1,490	\$12.78	\$12.99
51-9198	Helpers—Production Workers	3,860	\$8.75	\$8.51

Transportation and Material Moving Occupations

53-1021	First-Line Supervisors/Managers of Helpers, Laborers, and Material Movers, Hand	1,150	\$18.36	\$19.06
53-1031	First-Line Supervisors/Managers of Transportation and Material-Moving Machine and Vehicle	1,430	\$24.23	\$19.98
53-2012	Commercial Pilots	130	NA	NA
53-2021	Air Traffic Controllers	510	NA	NA
53-3022	Bus Drivers, School	4,060	\$11.70	\$12.17
53-3031	Driver/Sales Workers	NA	\$13.14	\$12.41
53-3032	Truck Drivers, Heavy and Tractor-Trailer	13,910	\$17.94	\$18.29
53-3033	Truck Drivers, Light or Delivery Services	8,530	\$13.72	\$14.72
53-6021	Parking Lot Attendants	1,060	\$8.60	\$7.90
53-6031	Service Station Attendants	950	\$9.81	\$9.05
53-6051	Transportation Inspectors	140	\$12.75	\$12.67
53-7021	Crane and Tower Operators	200	\$15.73	\$15.57
53-7032	Excavating and Loading Machine and Dragline Operators	390	\$17.45	\$17.30
53-7051	Industrial Truck and Tractor Operators	5,240	\$12.81	\$12.74
53-7061	Cleaners of Vehicles and Equipment	1,910	\$8.35	\$8.24
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	13,500	\$10.40	\$9.94
53-7064	Packers and Packagers, Hand	7,580	\$8.93	\$8.21
53-7121	Tank Car, Truck, and Ship Loaders	NA	\$12.80	\$13.06

NA - Not Available

LAWRENCE MSA (2)
1998 Kansas OES Wage Survey



Counties Included:
Douglas

Lawrence MSA Wages

Management Occupations

<u>Code</u>	<u>Occupational Title</u>	<u>2001 - Q4 Employment</u>	<u>Mean Wage</u>	<u>Median Wage</u>
11-1011	Chief Executives	130	\$60.74	\$59.65
11-1021	General and Operations Managers	960	\$28.63	\$24.20
11-2011	Advertising and Promotions Managers	40	\$19.95	\$17.50
11-2021	Marketing Managers	NA	\$23.83	\$21.78
11-2022	Sales Managers	70	\$31.03	\$30.50
11-3011	Administrative Services Managers	90	\$21.35	\$19.83
11-3021	Computer and Information Systems Managers	50	\$28.58	\$26.71
11-3031	Financial Managers	170	\$25.14	\$21.00
11-3040	Human Resources Managers	50	\$24.73	\$22.06
11-3061	Purchasing Managers	20	\$22.83	\$20.08
11-3071	Transportation, Storage, and Distribution Managers	10	\$21.15	\$23.28
11-9021	Construction Managers	80	\$28.74	\$24.63
11-9032	Education Administrators, Elementary and Secondary School	50	NA	NA
11-9033	Education Administrators, Postsecondary	NA	\$30.86	\$28.93
11-9051	Food Service Managers	100	\$17.40	\$16.48
11-9141	Property, Real Estate, and Community Association Managers	60	\$14.35	\$13.44

Business and Financial Operations Occupations

13-1199	Business Operations Specialists, All Other	100	\$19.76	\$18.28
13-2011	Accountants and Auditors	140	\$18.72	\$17.27
13-2021	Appraisers and Assessors of Real Estate	NA	\$16.03	\$15.89

Computer and Mathematical Science Occupations

15-1041	Computer Support Specialists	110	\$16.67	\$15.91
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Life, Physical, and Social Science Occupations

19-2043	Hydrologists	20	\$29.52	\$28.28
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Community and Social Services Occupations

21-1023	Mental Health and Substance Abuse Social Workers	30	\$17.13	\$16.15
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Education, Training, and Library Occupations

25-2041	Special Education Teachers, Preschool, Kindergarten, and Elementary School	130	NA	NA
25-2043	Special Education Teachers, Secondary School	NA	NA	NA
25-3999	All Other Teachers, Primary, Secondary, and Adult	120	NA	NA
25-4021	Librarians	40	\$17.31	\$17.46
25-9041	Teacher Assistants	1,050	NA	NA

Arts, Design, Entertainment, Sports, and Media Occupations

27-1024	Graphic Designers	90	\$11.60	\$11.64
27-3099	Media and Communication Workers, All Other	NA	\$12.33	\$12.65

Healthcare Practitioner and Technical Occupations

<u>Code</u>	<u>Occupational Title</u>	<u>2001 - Q4 Employment</u>	<u>Mean Wage</u>	<u>Median Wage</u>
29-1122	Occupational Therapists	50	\$27.45	\$22.23
29-1127	Speech-Language Pathologists	60	\$18.72	\$18.26
29-2021	Dental Hygienists	110	\$30.42	\$31.33
29-2052	Pharmacy Technicians	60	\$9.32	\$9.09
29-2056	Veterinary Technologists and Technicians	NA	\$10.44	\$10.48
29-9091	Athletic Trainers	NA	NA	NA

Healthcare Support Occupations

31-9091	Dental Assistants	90	\$12.92	\$12.92
31-9092	Medical Assistants	NA	\$9.03	\$8.33
31-9096	Veterinary Assistants and Laboratory Animal Caretakers	NA	\$7.02	\$7.09

Protective Service Occupations

33-9032	Security Guards	120	\$8.94	\$8.46
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Food Preparation and Serving Related Occupations

35-1012	First-Line Supervisors/Managers of Food Preparation and Serving Workers	260	\$9.54	\$8.55
35-2011	Cooks, Fast Food	NA	\$7.61	\$7.73
35-2012	Cooks, Institution and Cafeteria	170	\$9.03	\$8.79
35-2014	Cooks, Restaurant	420	\$7.28	\$6.75
35-3011	Bartenders	290	\$7.42	\$6.90
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	1,150	\$7.29	\$7.44
35-3022	Counter Attendants, Cafeteria, Food Concession, and Coffee Shop	240	\$6.80	\$6.65
35-3031	Waiters and Waitresses	1,280	\$7.28	\$7.16
35-9011	Dining Room and Cafeteria Attendants and Bartender Helpers	220	\$6.59	\$6.59
35-9021	Dishwashers	220	\$6.76	\$6.75
35-9031	Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop	90	\$6.90	\$6.93

Building and Grounds Cleaning and Maintenance Occupations

37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	570	\$8.91	\$8.46
37-2012	Maids and Housekeeping Cleaners	300	\$7.69	\$7.78
37-3011	Landscaping and Groundskeeping Workers	330	\$9.55	\$9.59

Sales and Related Occupations

<u>Code</u>	<u>Occupational Title</u>	<u>2001 - Q4 Employment</u>	<u>Mean Wage</u>	<u>Median Wage</u>
41-1011	First-Line Supervisors/Managers of Retail Sales Workers	520	\$12.08	\$10.57
41-1012	First-Line Supervisors/Managers of Non-Retail Sales Workers	20	\$21.29	\$21.26
41-2011	Cashiers	1,230	\$7.04	\$6.83
41-2021	Counter and Rental Clerks	80	\$7.48	\$6.96
41-2022	Parts Salespersons	60	\$12.06	\$10.94
41-2031	Retail Salespersons	1,580	\$7.80	\$6.83
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	220	\$20.06	\$17.24

Office and Administrative Support Occupations

43-1011	First-Line Supervisors/Managers of Office and Administrative Support Workers	440	\$15.71	\$14.59
43-3021	Billing and Posting Clerks and Machine Operators	150	\$11.73	\$11.85
43-3031	Bookkeeping, Accounting, and Auditing Clerks	560	\$11.10	\$11.07
43-3071	Tellers	230	\$9.23	\$9.16
43-4061	Eligibility Interviewers, Government Programs	20	NA	NA
43-4071	File Clerks	40	\$8.31	\$8.30
43-4081	Hotel, Motel, and Resort Desk Clerks	100	\$7.53	\$7.71
43-4171	Receptionists and Information Clerks	360	\$8.82	\$8.54
43-5051	Postal Service Clerks	20	NA	NA
43-5052	Postal Service Mail Carriers	120	NA	NA
43-5071	Shipping, Receiving, and Traffic Clerks	290	\$10.14	\$9.91
43-5081	Stock Clerks and Order Fillers	800	\$9.23	\$8.61
43-6011	Executive Secretaries and Administrative Assistants	270	\$15.13	\$14.45
43-6013	Medical Secretaries	90	\$9.63	\$8.77
43-6014	Secretaries, Except Legal, Medical, and Executive	570	\$10.85	\$10.67
43-9021	Data Entry Keyers	100	\$9.59	\$9.19
43-9061	Office Clerks, General	830	\$9.84	\$9.79
43-9999	All Other Secretaries, Administrative Assistants, and Other Office Support	120	\$14.28	\$14.34

Construction and Extraction Occupations

47-1011	First-Line Supervisors/Managers of Construction Trades and Extraction Workers	130	\$21.47	\$20.94
47-2021	Brickmasons and Blockmasons	NA	\$18.34	\$18.69
47-2031	Carpenters	400	\$15.46	\$15.39
47-2081	Drywall and Ceiling Tile Installers	NA	\$12.66	\$12.70
47-2141	Painters, Construction and Maintenance	90	\$12.62	\$12.20
47-2181	Roofers	60	\$15.25	\$15.98
47-3012	Helpers—Carpenters	NA	\$11.16	\$11.12
47-4999	All Other Construction Trades and Related Workers	NA	\$10.78	\$10.59

Installation, Maintenance, and Repair Occupations

<u>Code</u>	<u>Occupational Title</u>	<u>2001 - Q4 Employment</u>	<u>Mean Wage</u>	<u>Median Wage</u>
49-1011	First-Line Supervisors/Managers of Mechanics, Installers, and Repairers	140 280	\$22.54 \$16.10	\$22.53 \$15.78
49-3023	Automotive Service Technicians and Mechanics	330	\$12.93	\$12.41
49-9042	Maintenance and Repair Workers, General			

Production Occupations

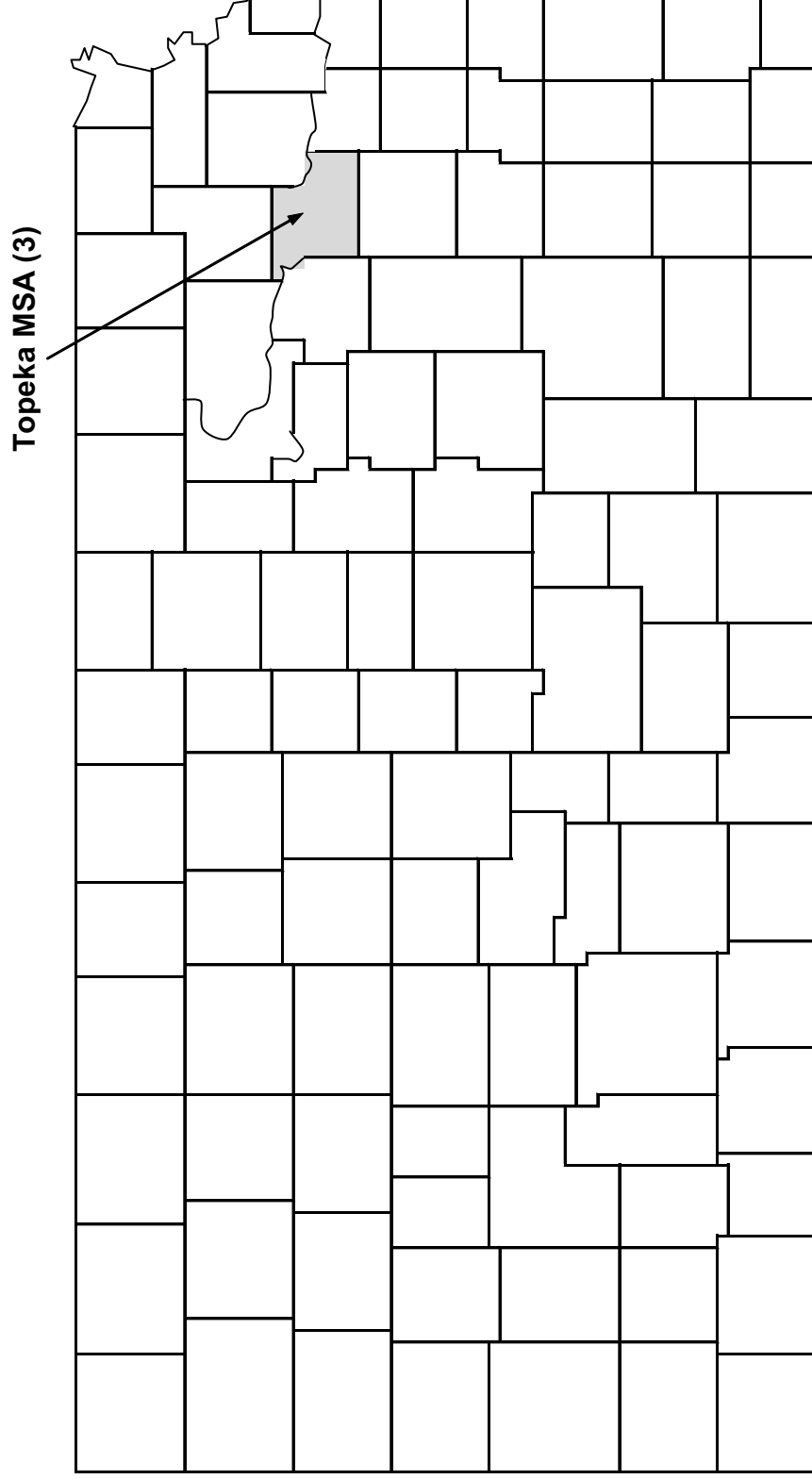
51-2099	Assemblers and Fabricators, All Other	NA	\$8.44	\$8.08
51-7011	Cabinetmakers and Bench Carpenters	NA	\$10.79	\$11.74

Transportation and Material Moving Occupations

53-3033	Truck Drivers, Light or Delivery Services	NA	\$7.98	\$6.98
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NA - Not Available

TOPEKA MSA (3)
1998 Kansas OES Wage Survey



Counties Included:
Shawnee

Topeka MSA Wages

Management Occupations

<u>Code</u>	<u>Occupational Title</u>	<u>2001 - Q4 Employment</u>	<u>Mean Wage</u>	<u>Median Wage</u>
11-1011	Chief Executives	270	\$47.84	\$45.05
11-1021	General and Operations Managers	2220	\$28.78	\$25.23
11-1031	Legislators	190	\$23.89	\$20.88
11-2011	Advertising and Promotions Managers	60	\$30.38	\$25.68
11-2021	Marketing Managers	100	\$23.27	\$19.88
11-2022	Sales Managers	210	\$31.09	\$28.48
11-3011	Administrative Services Managers	410	\$21.79	\$19.79
11-3021	Computer and Information Systems Managers	240	\$34.67	\$34.06
11-3031	Financial Managers	520	\$29.43	\$27.43
11-3051	Industrial Production Managers	60	\$26.74	\$26.12
11-3071	Transportation, Storage, and Distribution Managers	130	\$33.38	\$32.86
11-9021	Construction Managers	290	\$18.86	\$16.39
11-9031	Education Administrators, Preschool and Child Care Center/Program	70	\$14.20	\$13.53
11-9051	Food Service Managers	200	\$15.79	\$16.04
11-9151	Social and Community Service Managers	80	\$19.07	\$17.95
11-9199	Managers, All Other	360	\$29.28	\$27.13

Business and Financial Operations Occupations

13-1023	Purchasing Agents, Except Wholesale, Retail, and Farm Products	110	\$20.31	\$19.36
13-1031	Claims Adjusters, Examiners, and Investigators	310	\$20.39	\$20.53
13-1041	Compliance Officers, Except Agriculture, Construction, Health and Safety, and Transportation	200	\$20.05	\$19.05
13-1051	Cost Estimators	290	\$21.10	\$20.33
13-1071	Employment, Recruitment, and Placement Specialists	120	\$17.67	\$15.60
13-1072	Compensation, Benefits, and Job Analysis Specialists	30	\$19.55	\$18.59
13-1073	Training and Development Specialists	180	\$18.09	\$17.10
13-1111	Management Analysts	540	\$22.03	\$20.28
13-1199	Business Operations Specialists, All Other	950	\$17.83	\$16.58
13-2011	Accountants and Auditors	790	\$20.94	\$19.04
13-2031	Budget Analysts	80	\$24.55	\$22.97
13-2061	Financial Examiners	30	\$21.29	\$21.01
13-2072	Loan Officers	190	\$19.13	\$18.13
13-2081	Tax Examiners, Collectors, and Revenue Agents	40	\$23.63	\$24.58

Computer and Mathematical Science Occupations

15-1031	Computer Software Engineers, Applications	90	\$26.56	\$26.16
15-1032	Computer Software Engineers, Systems Software	100	\$26.51	\$25.94
15-1041	Computer Support Specialists	230	\$17.01	\$16.25
15-1051	Computer Systems Analysts	480	\$23.53	\$22.37
15-1061	Database Administrators	50	\$22.69	\$22.26

Computer and Mathematical Science Occupations Cont.

<u>Code</u>	<u>Occupational Title</u>	<u>2001 - Q4 Employment</u>	<u>Mean Wage</u>	<u>Median Wage</u>
15-1071	Network and Computer Systems Administrators	160	\$20.72	\$19.23
15-1081	Network Systems and Data Communications Analysts	120	\$24.68	\$24.27
Architecture and Engineering Occupations				
17-1022	Surveyors	NA	\$20.68	\$20.67
17-2051	Civil Engineers	230	\$28.43	\$28.44
17-2081	Environmental Engineers	30	\$29.48	\$30.06
17-2199	Engineers, All Other	110	\$21.81	\$21.27
17-3013	Mechanical Drafters	NA	\$17.58	\$17.54
17-3099	All Other Drafters, Engineering, and Mapping Technicians	280	\$16.22	\$16.13
Life, Physical, and Social Science Occupations				
19-1022	Microbiologists	NA	\$18.09	\$18.20
19-2031	Chemists	40	\$19.11	\$18.98
19-2041	Environmental Scientists and Specialists, Including Health	150	\$22.62	\$22.07
19-2042	Geoscientists, Except Hydrologists and Geographers	30	NA	NA
19-2043	Hydrologists	20	NA	NA
19-3021	Market Research Analysts	50	\$19.23	\$17.49
19-3022	Survey Researchers	90	NA	NA
19-4099	Life, Physical, and Social Science Technicians, All Other	10	NA	NA
Community and Social Services Occupations				
21-1012	Educational, Vocational, and School Counselors	90	\$20.86	\$20.78
21-1021	Child, Family, and School Social Workers	180	\$12.37	\$11.69
21-1023	Mental Health and Substance Abuse Social Workers	160	\$13.47	\$13.73
21-1091	Health Educators	70	\$14.64	\$13.21
21-1092	Probation Officers and Correctional Treatment Specialists	40	\$16.18	\$16.23
21-1093	Social and Human Service Assistants	190	\$11.60	\$11.59
21-2011	Clergy	30	\$18.58	\$16.77
21-9099	All Other Counselors, Social and Religious Workers	50	\$17.46	\$16.50
21-9999	All Other Counselors, Social, and Religious Workers	NA	\$17.59	\$16.88
Legal Occupations				
23-1011	Lawyers	330	\$26.44	\$24.67
23-1021	Administrative Law Judges, Adjudicators, and Hearing	10	NA	NA
23-1022	Officers	10	NA	NA
23-1023	Arbitrators, Mediators, and Conciliators	40	\$45.47	\$50.42
23-2011	Judges, Magistrate Judges, and Magistrates	90	\$14.16	\$13.24
23-2091	Paralegals and Legal Assistants	20	NA	NA
23-2092	Court Reporters	30	\$10.42	\$10.28
	Law Clerks			
Education, Training, and Library Occupations				
25-2011	Preschool Teachers, Except Special Education	290	\$8.69	\$8.77
25-2021	Elementary School Teachers, Except Special Education	1,070	NA	NA
25-4010	Archivists, Curators, and Museum Technicians	30	\$14.34	\$15.11
25-9041	Teacher Assistants	890	NA	NA

Arts, Design, Entertainment, Sports, and Media Occupations

<u>Code</u>	<u>Occupational Title</u>	<u>2001 - Q4 Employment</u>	<u>Mean Wage</u>	<u>Median Wage</u>
27-1024	Graphic Designers	80	\$14.48	\$14.47
27-3031	Public Relations Specialists	190	\$24.45	\$21.99
27-3043	Writers and Authors	20	\$13.78	\$13.19
27-4021	Photographers	70	\$8.78	\$7.06

Healthcare Practitioner and Technical Occupations

29-1063	Internists, General	NA	\$54.78	\$55.08
29-1127	Speech-Language Pathologists	70	\$20.11	\$20.18
29-1131	Veterinarians	40	\$21.21	\$20.56
29-1199	Health Diagnosing and Treating Practitioners, All Other	NA	\$19.07	\$17.61
29-2056	Veterinary Technologists and Technicians	20	\$10.96	\$10.85
29-2061	Licensed Practical and Licensed Vocational Nurses	490	\$13.94	\$13.63
29-9010	Occupational Health and Safety Specialists and Technicians	40	\$19.53	\$18.36
29-9091	Athletic Trainers	NA	NA	NA

Healthcare Support Occupations

31-2021	Physical Therapist Assistants	50	\$14.57	\$15.37
31-9091	Dental Assistants	170	\$11.47	\$11.39
31-9094	Medical Transcriptionists	NA	\$11.01	\$10.86
31-9099	Healthcare Support Workers, All Other	NA	\$13.22	\$13.33

Protective Service Occupations

33-9099	Protective Service Workers, All Other	20	NA	NA
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Food Preparation and Serving Related Occupations

35-1011	Chefs and Head Cooks	50	\$11.81	\$10.20
35-1012	First-Line Supervisors/Managers of Food Preparation and Serving Workers	440	\$9.62	\$9.33
35-2011	Cooks, Fast Food	NA	\$6.52	\$6.46
35-2012	Cooks, Institution and Cafeteria	620	\$9.31	\$9.00
35-2014	Cooks, Restaurant	290	\$9.14	\$8.78
35-2021	Food Preparation Workers	840	\$7.55	\$7.80
35-3011	Bartenders	100	\$9.20	\$7.30
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	1,770	\$7.04	\$6.96
35-3022	Counter Attendants, Cafeteria, Food Concession, and Coffee Shop	260	\$6.76	\$6.64
35-3031	Waiters and Waitresses	590	\$6.34	\$6.37
35-3041	Food Servers, Nonrestaurant	NA	\$6.72	\$6.67
35-9011	Dining Room and Cafeteria Attendants and Bartender Helpers	240	\$7.12	\$7.22
35-9021	Dishwashers	370	\$7.25	\$7.46
35-9031	Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop	180	\$6.44	\$6.51

Building and Grounds Cleaning and Maintenance Occupations

<u>Code</u>	<u>Occupational Title</u>	<u>2001 - Q4 Employment</u>	<u>Mean Wage</u>	<u>Median Wage</u>
37-1011	First-Line Supervisors/Managers of Housekeeping and Janitorial Workers	160	\$11.73	\$11.24
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	1,630	\$8.48	\$7.96
37-2012	Maids and Housekeeping Cleaners	540	\$7.25	\$7.16

Personal Care and Service Occupations

39-3091	Amusement and Recreation Attendants	110	\$6.16	\$6.25
39-4021	Funeral Attendants	30	\$7.51	\$7.80
39-5011	Barbers	NA	\$10.06	\$10.01
39-5012	Hairdressers, Hairstylists, and Cosmetologists	260	\$7.75	\$6.92
39-9011	Child Care Workers	310	\$7.41	\$7.36

Sales and Related Occupations

41-1011	First-Line Supervisors/Managers of Retail Sales Workers	960	\$13.76	\$12.55
41-2011	Cashiers	2,290	\$7.43	\$7.10
41-2022	Parts Salespersons	160	\$11.14	\$10.62
41-2031	Retail Salespersons	2,870	\$10.21	\$8.12
41-3021	Insurance Sales Agents	190	\$28.11	\$22.48
41-4011	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	210	\$28.66	\$26.67
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	680	\$21.25	\$20.00
41-9011	Demonstrators and Product Promoters	NA	\$8.07	\$8.12
41-9022	Real Estate Sales Agents	NA	\$11.39	\$9.74
41-9099	Sales and Related Workers, All Other	300	\$18.95	\$17.43

Office and Administrative Support Occupations

43-1011	First-Line Supervisors/Managers of Office and Administrative Support Workers	1,090	\$17.68	\$16.03
43-2011	Switchboard Operators, Including Answering Service	200	\$11.78	\$11.91
43-3011	Bill and Account Collectors	90	\$10.69	\$10.28
43-3021	Billing and Posting Clerks and Machine Operators	320	\$12.18	\$12.28
43-3031	Bookkeeping, Accounting, and Auditing Clerks	1,710	\$11.29	\$11.24
43-3051	Payroll and Timekeeping Clerks	130	\$13.90	\$13.54
43-3061	Procurement Clerks	50	\$13.73	\$14.15
43-3071	Tellers	310	\$9.04	\$8.74
43-4031	Court, Municipal, and License Clerks	90	\$11.68	\$10.71
43-4061	Eligibility Interviewers, Government Programs	120	\$15.36	\$15.38
43-4141	New Accounts Clerks	NA	\$11.65	\$11.83
43-4161	Human Resources Assistants, Except Payroll and Timekeeping	80	\$14.53	\$14.50
43-4171	Receptionists and Information Clerks	770	\$8.85	\$8.79
43-4999	All Other Financial, Information, and Record Clerks	140	\$12.42	\$11.89

Office and Administrative Support Occupations

<u>Code</u>	<u>Occupational Title</u>	<u>2001 - Q4 Employment</u>	<u>Mean Wage</u>	<u>Median Wage</u>
43-5021	Couriers and Messengers	130	\$9.12	\$9.07
43-5032	Dispatchers, Except Police, Fire, and Ambulance	100	\$15.84	\$15.74
43-5051	Postal Service Clerks	40	NA	NA
43-5052	Postal Service Mail Carriers	240	NA	NA
43-5053	Postal Service Mail Sorters, Processors, and Processing Machine Operators	200	NA	NA
43-5061	Production, Planning, and Expediting Clerks	160	\$16.15	\$15.29
43-5071	Shipping, Receiving, and Traffic Clerks	350	\$11.34	\$9.86
43-5081	Stock Clerks and Order Fillers	1,670	\$8.98	\$7.65
43-6011	Executive Secretaries and Administrative Assistants	820	\$15.32	\$14.84
43-6012	Legal Secretaries	NA	\$13.01	\$12.91
43-6013	Medical Secretaries	NA	\$11.34	\$10.93
43-6014	Secretaries, Except Legal, Medical, and Executive	1,700	\$10.96	\$10.63
43-9011	Computer Operators	340	\$13.90	\$13.92
43-9021	Data Entry Keyers	320	\$9.33	\$8.41
43-9061	Office Clerks, General	3,620	\$10.59	\$10.29
43-9071	Office Machine Operators, Except Computer	NA	\$10.01	\$9.72
43-9999	All Other Secretaries, Administrative Assistants, and Other Office Support	380	\$14.89	\$13.15
Farming, Fishing, and Forestry Workers				
45-2011	Agricultural Inspectors	20	\$16.34	\$16.27
Construction and Extraction Occupations				
47-1011	First-Line Supervisors/Managers of Construction Trades and Extraction Workers	260	\$20.21	\$19.87
47-2031	Carpenters	460	\$15.46	\$14.96
47-2061	Construction Laborers	800	\$12.80	\$12.86
47-2073	Operating Engineers and Other Construction Equipment Operators	430	\$17.43	\$18.16
47-2111	Electricians	400	\$19.25	\$19.32
47-3012	Helpers—Carpenters	NA	\$10.57	\$10.64
Installation, Maintenance, and Repair Occupations				
49-1011	First-Line Supervisors/Managers of Mechanics, Installers, and Repairers	540	\$22.70	\$22.43
49-2011	Computer, Automated Teller, and Office Machine Repairers	150	\$16.62	\$16.21
49-2091	Avionics Technicians	NA	\$21.28	\$21.01
49-2092	Electric Motor, Power Tool, and Related Repairers	10	\$18.38	\$19.29
49-3011	Aircraft Mechanics and Service Technicians	80	\$19.30	\$19.61
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	240	\$16.41	\$15.90
49-3093	Tire Repairers and Changers	60	\$10.21	\$10.43
49-9063	Musical Instrument Repairers and Tuners	NA	\$8.07	\$8.17
49-9099	Installation, Maintenance, and Repair Workers, All Other	40	\$13.16	\$13.76

Production Occupations

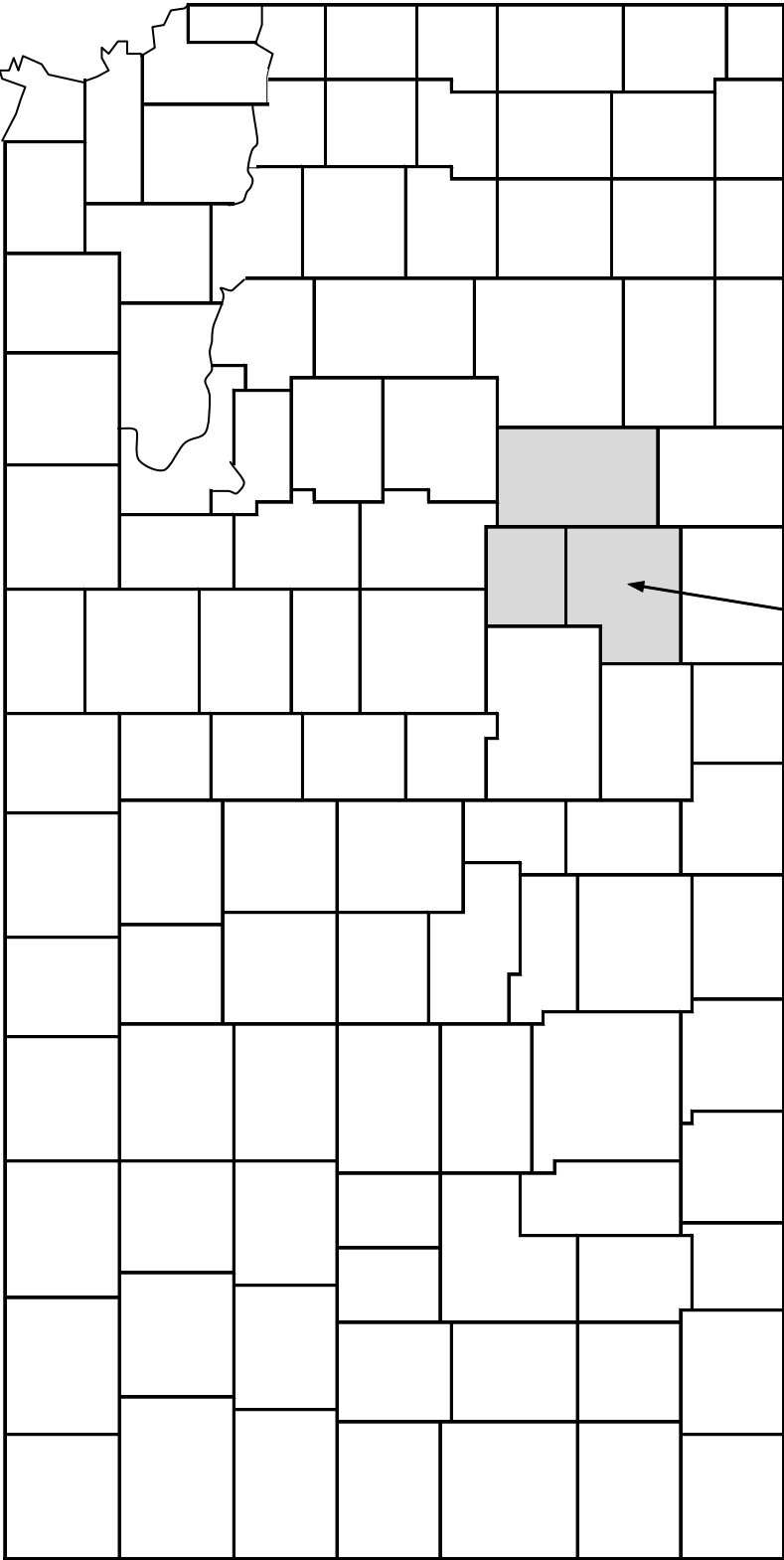
<u>Code</u>	<u>Occupational Title</u>	<u>2001 - Q4 Employment</u>	<u>Mean Wage</u>	<u>Median Wage</u>
51-1011	First-Line Supervisors/Managers of Production and Operating Workers	560	\$19.49	\$19.28
51-4031	Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic	NA	\$13.09	\$13.02
51-4121	Welders, Cutters, Solderers, and Brazers	140	\$13.27	\$13.15

Transportation and Material Moving Occupations

53-1031	First-Line Supervisors/Managers of Transportation and Material-Moving Machine and Vehicle	100	\$21.62	\$20.90
53-2011	Airline Pilots, Copilots, and Flight Engineers	30	NA	NA
53-3022	Bus Drivers, School	410	\$12.25	\$11.78
53-3031	Driver/Sales Workers	510	\$11.78	\$11.24
53-3032	Truck Drivers, Heavy and Tractor-Trailer	730	\$14.53	\$13.81

NA - Not Available

WICHITA MSA (4)
1998 Kansas OES Wage Survey



Wichita MSA (4)

- Counties Included:
- Butler
 - Harvey
 - Sedgwick

Wichita MSA Wages

Management Occupations

<u>Code</u>	<u>Occupational Title</u>	<u>2001 - Q4 Employment</u>	<u>Mean Wage</u>	<u>Median Wage</u>
11-1011	Chief Executives	710	\$50.58	\$50.25
11-1021	General and Operations Managers	6,020	\$31.73	\$28.02
11-1031	Legislators	70	\$17.25	\$15.99
11-2011	Advertising and Promotions Managers	150	\$22.89	\$19.84
11-2021	Marketing Managers	460	\$32.20	\$30.14
11-2022	Sales Managers	870	\$30.95	\$27.78
11-2031	Public Relations Managers	200	\$25.88	\$21.29
11-3011	Administrative Services Managers	480	\$26.31	\$23.58
11-3031	Financial Managers	1,130	\$29.72	\$27.50
11-3040	Human Resources Managers	400	\$29.66	\$27.37
11-3061	Purchasing Managers	410	\$30.56	\$29.20
11-3071	Transportation, Storage, and Distribution Managers	170	\$24.96	\$22.06
11-9021	Construction Managers	480	\$25.15	\$23.38
11-9031	Education Administrators, Preschool and Child Care Center/Program	110	\$24.02	\$23.86
11-9032	Education Administrators, Elementary and Secondary School	330	NA	NA
11-9033	Education Administrators, Postsecondary	110	\$24.46	\$24.22
11-9051	Food Service Managers	860	\$15.34	\$15.05
11-9081	Lodging Managers	110	\$16.18	\$14.86
11-9131	Postmasters and Mail Superintendents	40	\$23.59	\$23.68
11-9141	Property, Real Estate, and Community Association Managers	260	\$15.02	\$11.21
11-9151	Social and Community Service Managers	140	\$18.29	\$16.76
11-9199	Managers, All Other	1,090	\$25.14	\$23.88

Business and Financial Operations Occupations

13-1023	Purchasing Agents, Except Wholesale, Retail, and Farm Products	370	\$22.37	\$22.29
13-1041	Compliance Officers, Except Agriculture, Construction, Health and Safety, and Transportation	290	\$21.94	\$20.62
13-1051	Cost Estimators	580	\$24.41	\$23.99
13-1073	Training and Development Specialists	220	\$20.55	\$18.63
13-1199	Business Operations Specialists, All Other	1,010	\$22.13	\$21.91
13-2011	Accountants and Auditors	1,520	\$21.96	\$21.16
13-2021	Appraisers and Assessors of Real Estate	NA	\$22.62	\$21.00
13-2031	Budget Analysts	100	\$22.71	\$21.20
13-2051	Financial Analysts	160	\$24.95	\$23.38
13-2061	Financial Examiners	50	\$27.97	\$27.08
13-2072	Loan Officers	460	\$22.22	\$19.65
13-2081	Tax Examiners, Collectors, and Revenue Agents	110	\$27.37	\$27.68
13-2082	Tax Preparers	90	\$17.71	\$16.79

Computer and Mathematical Science Occupations

<u>Code</u>	<u>Occupational Title</u>	<u>2001 - Q4 Employment</u>	<u>Mean Wage</u>	<u>Median Wage</u>
15-1031	Computer Software Engineers, Applications	NA	\$27.15	\$26.85
15-1041	Computer Support Specialists	730	\$19.59	\$18.69
15-1071	Network and Computer Systems Administrators	280	\$24.55	\$23.04

Architecture and Engineering Occupations

17-2051	Civil Engineers	290	\$25.50	\$23.40
17-2081	Environmental Engineers	70	\$21.55	\$19.29
17-3011	Architectural and Civil Drafters	70	\$16.18	\$15.67
17-3013	Mechanical Drafters	190	\$19.61	\$17.26
17-3099	All Other Drafters, Engineering, and Mapping Technicians	530	\$19.67	\$20.40

Life, Physical, and Social Science Occupations

19-2041	Environmental Scientists and Specialists, Including Health	90	\$21.77	\$20.90
19-2042	Geoscientists, Except Hydrologists and Geographers	120	\$24.68	\$23.70
19-3031	Clinical, Counseling, and School Psychologists	200	\$21.85	\$21.81
19-3099	Social Scientists and Related Workers, All Other	30	\$24.28	\$22.63

Community and Social Services Occupations

21-1011	Substance Abuse and Behavioral Disorder Counselors	NA	\$14.90	\$15.28
21-1012	Educational, Vocational, and School Counselors	NA	\$20.76	\$21.13
21-1021	Child, Family, and School Social Workers	290	\$14.86	\$14.23
21-1023	Mental Health and Substance Abuse Social Workers	200	\$13.53	\$13.00
21-1092	Probation Officers and Correctional Treatment Specialists	70	NA	NA
21-1093	Social and Human Service Assistants	600	\$11.77	\$11.34

Legal Occupations

23-1011	Lawyers	NA	\$37.21	\$36.56
23-2011	Paralegals and Legal Assistants	290	\$17.20	\$16.65
23-9099	All Other Legal and Related Workers	170	\$23.04	\$19.62

Education, Training, and Library Occupations

25-1125	History Teachers, Postsecondary	NA	NA	NA
25-2012	Kindergarten Teachers, Except Special Education	230	NA	NA
25-2021	Elementary School Teachers, Except Special Education	2,900	NA	NA
25-2022	Middle School Teachers, Except Special and Vocational Education	1,400	NA	NA
25-2031	Secondary School Teachers, Except Special and Vocational Education	2,170	NA	NA
25-2041	Special Education Teachers, Preschool, Kindergarten, and Elementary School	520	NA	NA
25-2042	Special Education Teachers, Middle School	NA	NA	NA
25-2043	Special Education Teachers, Secondary School	330	NA	NA
25-3999	All Other Teachers, Primary, Secondary, and Adult	640	NA	NA
25-4021	Librarians	240	\$20.07	\$20.25
25-9031	Instructional Coordinators	70	\$25.53	\$25.79
25-9041	Teacher Assistants	3,030	NA	NA

Arts, Design, Entertainment, Sports, and Media Occupations

<u>Code</u>	<u>Occupational Title</u>	<u>2001 - Q4 Employment</u>	<u>Mean Wage</u>	<u>Median Wage</u>
27-1023	Floral Designers	NA	\$9.59	\$8.74
27-1024	Graphic Designers	520	\$17.55	\$19.03
27-1025	Interior Designers	50	\$15.28	\$13.50
27-3031	Public Relations Specialists	140	\$18.58	\$16.65
27-4021	Photographers	230	\$11.70	\$10.46

Healthcare Practitioner and Technical Occupations

29-1020	Dentists	NA	\$42.62	\$41.10
29-1051	Pharmacists	430	\$32.23	\$32.83
29-1065	Pediatricians, General	NA	\$50.88	\$51.66
29-1071	Physician Assistants	130	\$27.14	\$28.72
29-1111	Registered Nurses	3,660	\$18.73	\$18.99
29-1122	Occupational Therapists	100	\$25.59	\$23.91
29-1123	Physical Therapists	NA	\$31.99	\$30.72
29-1127	Speech-Language Pathologists	210	\$20.57	\$18.57
29-2011	Medical and Clinical Laboratory Technologists	190	\$15.96	\$15.93
29-2012	Medical and Clinical Laboratory Technicians	130	\$13.97	\$14.98
29-2021	Dental Hygienists	460	\$20.83	\$20.54
29-2034	Radiologic Technologists and Technicians	250	\$15.40	\$15.54
29-2052	Pharmacy Technicians	170	\$10.21	\$10.02
29-2056	Veterinary Technologists and Technicians	80	\$10.28	\$10.08
29-2061	Licensed Practical and Licensed Vocational Nurses	1,660	\$14.51	\$13.87
29-2071	Medical Records and Health Information Technicians	470	\$9.25	\$8.65
29-2081	Opticians, Dispensing	130	\$8.77	\$8.54
29-9091	Athletic Trainers	NA	NA	NA

Healthcare Support Occupations

31-1012	Nursing Aides, Orderlies, and Attendants	3,510	\$9.10	\$9.18
31-2021	Physical Therapist Assistants	NA	\$15.15	\$13.75
31-2022	Physical Therapist Aides	NA	\$9.85	\$9.85
31-9091	Dental Assistants	340	\$12.73	\$12.70
31-9092	Medical Assistants	740	\$9.82	\$9.84
31-9094	Medical Transcriptionists	240	\$10.70	\$10.71
31-9095	Pharmacy Aides	180	\$8.70	\$8.58

Protective Service Occupations

33-3012	Correctional Officers and Jailers	310	\$12.01	\$11.50
33-9032	Security Guards	1,620	\$11.02	\$9.69
33-9091	Crossing Guards	NA	\$7.08	\$6.98

Food Preparation and Serving Related Occupations

35-1011	Chefs and Head Cooks	NA	\$11.45	\$10.55
35-1012	First-Line Supervisors/Managers of Food Preparation and Serving Workers	1,760	\$11.27	\$10.51
35-2012	Cooks, Institution and Cafeteria	1,210	\$8.82	\$8.58
35-2014	Cooks, Restaurant	1,490	\$8.66	\$8.33

Food Preparation and Serving Related Occupations

<u>Code</u>	<u>Occupational Title</u>	<u>2001 - Q4 Employment</u>	<u>Mean Wage</u>	<u>Median Wage</u>
35-2015	Cooks, Short Order	80	\$6.78	\$6.64
35-2021	Food Preparation Workers	1,280	\$7.38	\$7.25
35-3011	Bartenders	680	\$6.62	\$6.38
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	6,360	\$6.98	\$6.83
35-3022	Counter Attendants, Cafeteria, Food Concession, and Coffee Shop	570	\$7.54	\$6.92
35-3031	Waiters and Waitresses	4,960	\$6.53	\$6.36
35-9011	Dining Room and Cafeteria Attendants and Bartender Helpers	450	\$6.28	\$6.38
35-9021	Dishwashers	1,000	\$6.71	\$6.59
35-9031	Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop			
Building and Grounds Cleaning and Maintenance Occupations		840	\$6.44	\$6.44
37-1011	First-Line Supervisors/Managers of Housekeeping and Janitorial Workers	350	\$11.53	\$10.62
37-1012	First-Line Supervisors/Managers of Landscaping, Lawn Service, and Groundskeeping Workers	120	\$15.60	\$15.07
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	3,820	\$8.74	\$8.24
37-2012	Maids and Housekeeping Cleaners	2,660	\$7.45	\$7.38
37-3011	Landscaping and Groundskeeping Workers	1,500	\$9.54	\$8.70
37-9099	All Other Building and Grounds Cleaning and Maintenance Workers	90	\$9.17	\$8.12
Personal Care and Service Occupations				
39-2021	Nonfarm Animal Caretakers	270	\$7.45	\$6.64
39-5012	Hairdressers, Hairstylists, and Cosmetologists	710	\$10.36	\$11.22
39-6022	Travel Guides	NA	\$10.16	\$10.04
39-9011	Child Care Workers	700	\$7.16	\$7.12
39-9099	Personal Care and Service Workers, All Other	160	\$7.87	\$7.05
Sales and Related Occupations				
41-1011	First-Line Supervisors/Managers of Retail Sales Workers	2,550	\$13.36	\$11.43
41-1012	First-Line Supervisors/Managers of Non-Retail Sales Workers	360	\$21.99	\$19.93
41-2011	Cashiers	6,120	\$7.25	\$7.08
41-2021	Counter and Rental Clerks	950	\$9.68	\$8.44
41-2022	Parts Salespersons	460	\$11.63	\$11.02
41-2031	Retail Salespersons	7,250	\$10.11	\$7.79
41-3021	Insurance Sales Agents	430	\$24.64	\$20.56
41-3041	Travel Agents	80	\$12.35	\$10.66
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Produc	3,060	\$22.76	\$19.72
41-9022	Real Estate Sales Agents	150	\$13.78	\$13.18
41-9041	Telemarketers	NA	\$9.44	\$9.70
41-9099	Sales and Related Workers, All Other	780	\$16.55	\$14.65

Office and Administrative Support Occupations

<u>Code</u>	<u>Occupational Title</u>	<u>2001 - Q4 Employment</u>	<u>Mean Wage</u>	<u>Median Wage</u>
43-1011	First-Line Supervisors/Managers of Office and Administrative Support Workers	2,340	\$18.25	\$16.36
43-2011	Switchboard Operators, Including Answering Service	390	\$10.33	\$9.27
43-3021	Billing and Posting Clerks and Machine Operators	830	\$11.89	\$11.85
43-3031	Bookkeeping, Accounting, and Auditing Clerks	3,230	\$12.01	\$11.40
43-3051	Payroll and Timekeeping Clerks	300	\$14.93	\$13.39
43-3071	Tellers	860	\$8.61	\$8.58
43-4031	Court, Municipal, and License Clerks	170	\$11.65	\$10.96
43-4061	Eligibility Interviewers, Government Programs	250	\$15.63	\$15.69
43-4071	File Clerks	390	\$8.85	\$8.55
43-4081	Hotel, Motel, and Resort Desk Clerks	400	\$8.08	\$8.08
43-4121	Library Assistants, Clerical	NA	\$8.39	\$8.26
43-4131	Loan Interviewers and Clerks	240	\$11.41	\$10.98
43-4141	New Accounts Clerks	150	\$11.76	\$11.52
43-4151	Order Clerks	NA	\$13.53	\$12.13
43-4161	Human Resources Assistants, Except Payroll and Timekeeping	230	\$15.54	\$14.25
43-4171	Receptionists and Information Clerks	2,310	\$10.05	\$9.58
43-4181	Reservation and Transportation Ticket Agents and Travel Clerks	NA	\$9.96	\$9.97
43-5021	Couriers and Messengers	410	\$9.22	\$9.55
43-5032	Dispatchers, Except Police, Fire, and Ambulance	300	\$15.50	\$14.03
43-5051	Postal Service Clerks	90	\$19.09	\$19.55
43-5052	Postal Service Mail Carriers	700	\$18.68	\$19.46
43-5053	Postal Service Mail Sorters, Processors, and Processing Machine Operators	350	\$15.66	\$16.53
43-5061	Production, Planning, and Expediting Clerks	810	\$17.60	\$17.84
43-5081	Stock Clerks and Order Fillers	3,860	\$11.15	\$9.87
43-6011	Executive Secretaries and Administrative Assistants	2,820	\$16.25	\$15.91
43-6012	Legal Secretaries	470	\$13.65	\$13.21
43-6013	Medical Secretaries	240	\$9.94	\$9.70
43-6014	Secretaries, Except Legal, Medical, and Executive	2,970	\$10.93	\$10.43
43-9011	Computer Operators	190	\$12.08	\$11.05
43-9021	Data Entry Keyers	2,210	\$11.58	\$11.84
43-9022	Word Processors and Typists	270	\$10.05	\$10.13
43-9041	Insurance Claims and Policy Processing Clerks	580	\$12.98	\$11.65
43-9051	Mail Clerks and Mail Machine Operators, Except Postal Service	630	\$9.32	\$8.46
43-9061	Office Clerks, General	5,560	\$9.69	\$9.20
43-9071	Office Machine Operators, Except Computer	90	\$10.66	\$10.37
43-9999	All Other Secretaries, Administrative Assistants, and Other	560	\$16.30	\$15.79

Farming, Fishing, and Forestry Occupations

<u>Code</u>	<u>Occupational Title</u>	<u>2001 - Q4 Employment</u>	<u>Mean Wage</u>	<u>Median Wage</u>
45-2011	Agricultural Inspectors	20	\$19.31	\$19.96
45-2092	Farmworkers and Laborers, Crop, Nursery, and Greenhouse	90	\$7.98	\$7.19

Construction and Extraction Occupations

47-1011	First-Line Supervisors/Managers of Construction Trades and Extraction Workers	1,320	\$21.23	\$20.78
47-2031	Carpenters	1,720	\$15.45	\$15.13
47-2041	Carpet Installers	NA	\$14.40	\$14.77
47-2044	Tile and Marble Setters	NA	\$16.59	\$16.59
47-2051	Cement Masons and Concrete Finishers	400	\$13.01	\$12.73
47-2061	Construction Laborers	2,180	\$10.17	\$9.69
47-2071	Paving, Surfacing, and Tamping Equipment Operators	NA	\$11.11	\$10.40
47-2073	Operating Engineers and Other Construction Equipment Operators	NA	\$13.08	\$12.69
47-2081	Drywall and Ceiling Tile Installers	NA	\$16.44	\$16.63
47-2082	Tapers	NA	\$19.28	\$19.81
47-2111	Electricians	1,410	\$18.10	\$17.43
47-2130	Insulation Workers	NA	\$13.19	\$13.16
47-2141	Painters, Construction and Maintenance	750	\$12.39	\$11.85
47-2151	Pipelayers	NA	\$10.21	\$8.74
47-2152	Plumbers, Pipefitters, and Steamfitters	990	\$19.98	\$18.88
47-2161	Plasterers and Stucco Masons	NA	\$15.23	\$15.37
47-2181	Roofers	240	\$13.01	\$12.89
47-2221	Structural Iron and Steel Workers	210	\$14.87	\$14.10
47-3012	Helpers—Carpenters	NA	\$10.82	\$10.46
47-3013	Helpers—Electricians	NA	\$10.11	\$10.24
47-3014	Helpers—Painters, Paperhangers, Plasterers, and Stucco Masons	20	\$10.18	\$10.13
47-3015	Helpers—Pipelayers, Plumbers, Pipefitters, and Steamfitters	210	\$9.30	\$8.83
47-4999	All Other Construction Trades and Related Workers	NA	\$11.17	\$10.25

Installation, Maintenance, and Repair Occupations

49-1011	First-Line Supervisors/Managers of Mechanics, Installers, and Repairers	880	\$21.59	\$21.14
49-2092	Electric Motor, Power Tool, and Related Repairers	NA	\$16.64	\$15.90
49-2094	Electrical and Electronics Repairers, Commercial and Industrial Equipment	180	\$20.81	\$22.21
49-2096	Electronic Equipment Installers and Repairers, Motor Vehicles	NA	\$9.85	\$8.81
49-3022	Automotive Glass Installers and Repairers	NA	\$12.33	\$12.04
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	430	\$15.00	\$14.80
49-3041	Farm Equipment Mechanics	150	\$15.06	\$15.38

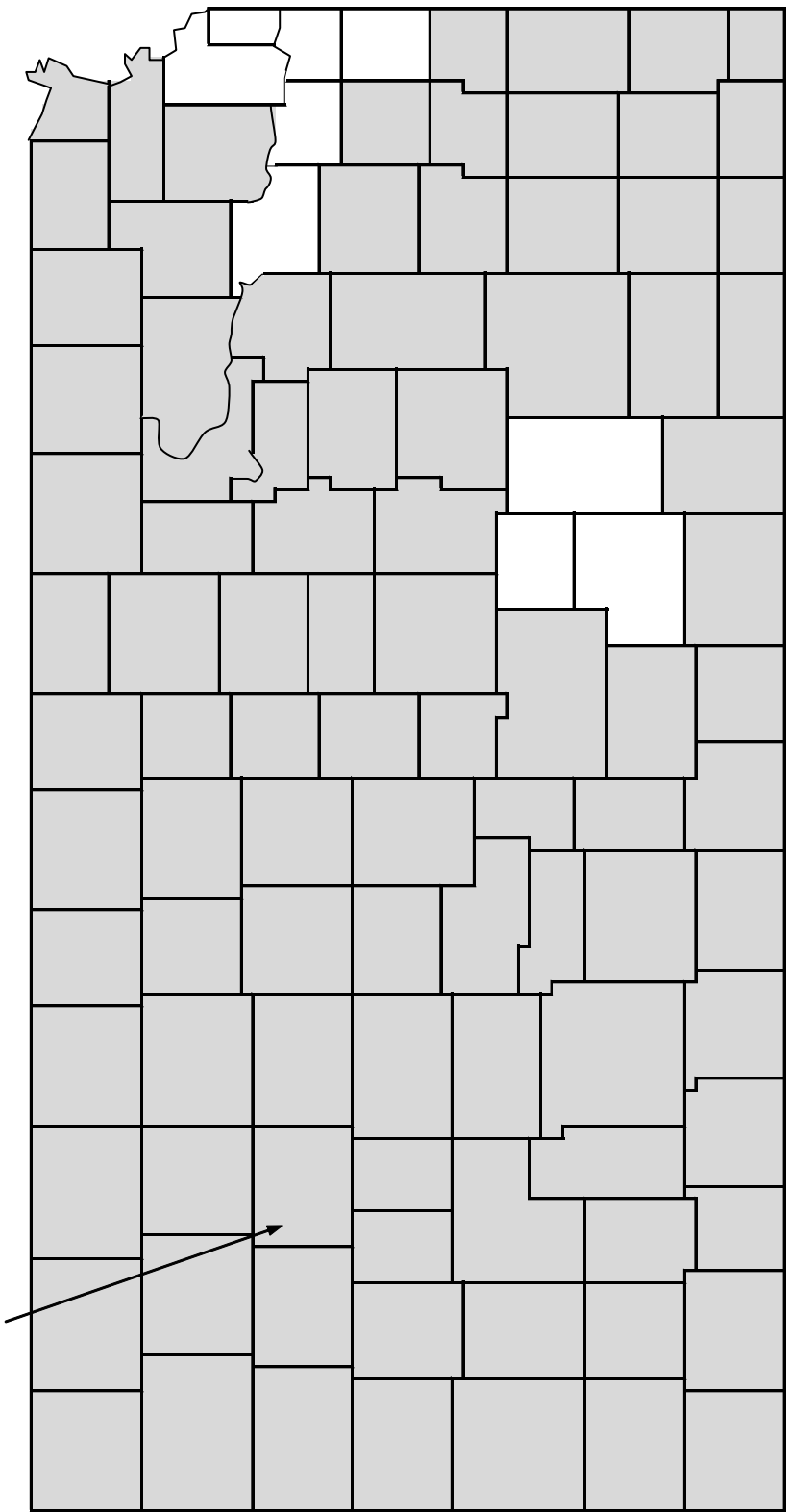
Installation, Maintenance, and Repair Occupations Cont.

<u>Code</u>	<u>Occupational Title</u>	<u>2001 - Q4 Employment</u>	<u>Mean Wage</u>	<u>Median Wage</u>
49-3042	Mobile Heavy Equipment Mechanics, Except Engines	280	\$15.67	\$15.02
49-3093	Tire Repairers and Changers	250	\$9.25	\$9.07
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	790	\$17.28	\$16.36
49-9041	Industrial Machinery Mechanics	220	\$16.13	\$15.84
49-9042	Maintenance and Repair Workers, General	3,440	\$15.39	\$13.48
49-9098	Helpers—Installation, Maintenance, and Repair Workers	130	\$9.07	\$8.83
Production Occupations				
51-2041	Structural Metal Fabricators and Fitters	390	\$11.30	\$10.61
51-4012	Numerical Tool and Process Control Programmers	100	\$21.80	\$22.55
51-4121	Welders, Cutters, Solderers, and Brazers	1,400	\$15.93	\$15.30
51-4122	Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders	210	\$22.83	\$24.66
51-5011	Bindery Workers	330	\$10.13	\$8.47
51-5022	Prepress Technicians and Workers	330	\$16.38	\$16.66
51-5023	Printing Machine Operators	550	\$16.42	\$16.90
51-6011	Laundry and Dry-Cleaning Workers	290	\$7.23	\$7.16
51-6021	Pressers, Textile, Garment, and Related Materials	160	\$7.28	\$7.48
51-6052	Tailors, Dressmakers, and Custom Sewers	70	\$9.54	\$9.52
51-6093	Upholsterers	40	\$13.36	\$12.87
51-8091	Chemical Plant and System Operators	190	\$17.93	\$18.79
51-9023	Mixing and Blending Machine Setters, Operators, and Tenders	190	\$15.39	\$15.11
51-9032	Cutting and Slicing Machine Setters, Operators, and Tenders	240	\$10.80	\$10.37
51-9111	Packaging and Filling Machine Operators and Tenders	690	\$13.39	\$14.00
51-9198	Helpers—Production Workers	880	\$10.55	\$10.10
Transportation and Material Moving Occupations				
53-1021	First-Line Supervisors/Managers of Helpers, Laborers, and Material Movers, Hand	230	\$15.72	\$15.48
53-1031	First-Line Supervisors/Managers of Transportation and Material-Moving Machine and Vehicle	420	\$19.33	\$16.39
53-2021	Air Traffic Controllers	80	NA	NA
53-3022	Bus Drivers, School	1,320	\$10.16	\$10.08
53-3031	Driver/Sales Workers	460	\$13.88	\$13.70
53-3032	Truck Drivers, Heavy and Tractor-Trailer	3,050	\$15.74	\$15.31
53-3033	Truck Drivers, Light or Delivery Services	2,440	\$9.86	\$8.23
53-3041	Taxi Drivers and Chauffeurs	120	\$7.40	\$7.25
53-3099	Motor Vehicle Operators, All Other	180	\$6.99	\$6.57
53-6031	Service Station Attendants	550	\$7.82	\$7.84
53-7051	Industrial Truck and Tractor Operators	640	\$12.31	\$12.20
53-7061	Cleaners of Vehicles and Equipment	420	\$8.46	\$8.33
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	2,790	\$8.70	\$8.34

NA - Not Available

BALANCE OF STATE (5)
1998 Kansas OES Wage Survey

Balance of State (5)



Balance of State Wages

Management Occupations

<u>Code</u>	<u>Occupational Title</u>	<u>2001 - Q4 Employment</u>	<u>Mean Wage</u>	<u>Median Wage</u>
11-1011	Chief Executives	1,340	\$45.58	\$43.34
11-1021	General and Operations Managers	11,200	\$25.40	\$22.12
11-1031	Legislators	520	\$22.06	\$21.89
11-2021	Marketing Managers	350	\$31.55	\$29.90
11-2022	Sales Managers	1,000	\$30.05	\$27.50
11-2031	Public Relations Managers	180	\$21.45	\$20.77
11-3011	Administrative Services Managers	880	\$20.32	\$18.96
11-3021	Computer and Information Systems Managers	440	\$28.67	\$26.14
11-3031	Financial Managers	1,950	\$29.74	\$27.53
11-3040	Human Resources Managers	540	\$24.45	\$22.27
11-3051	Industrial Production Managers	1,030	\$26.26	\$24.14
11-3061	Purchasing Managers	360	\$21.89	\$20.71
11-3071	Transportation, Storage, and Distribution Managers	520	\$22.84	\$20.54
11-9021	Construction Managers	640	\$23.19	\$22.13
11-9031	Ed. Admin., Preschool & Child Care Center/Program	260	\$20.41	\$16.35
11-9032	Ed. Admin., Elementary & Secondary School	1,080	NA	NA
11-9033	Education Administrators, Postsecondary	440	\$32.64	\$33.32
11-9041	Engineering Managers	400	\$37.26	\$35.65
11-9051	Food Service Managers	1,180	\$14.62	\$14.00
11-9081	Lodging Managers	200	\$11.97	\$10.96
11-9111	Medical and Health Services Managers	910	\$23.34	\$22.48
11-9121	Natural Sciences Managers	90	\$33.31	\$32.74
11-9131	Postmasters and Mail Superintendents	520	\$20.13	\$20.10
11-9141	Property/Real Estate/Community Association Managers	240	\$13.64	\$12.00
11-9151	Social and Community Service Managers	360	\$17.73	\$15.86
11-9199	Managers, All Other	1,620	\$22.72	\$21.11

Business and Financial Operations Occupations

13-1021	Purchasing Agents & Buyers, Farm Products	210	\$18.34	\$16.81
13-1022	Wholesale and Retail Buyers, Except Farm Products	340	\$14.91	\$12.59
13-1023	Purchasing Agents, Except Wholesale/Retail/Farm Products	600	\$17.24	\$16.48
13-1031	Claims Adjusters, Examiners, and Investigators	300	\$21.49	\$20.63
13-1041	Compliance Officers, Except Ag/Const/Hlth/Safety/Transp	610	\$16.46	\$15.40
13-1051	Cost Estimators	410	\$20.09	\$18.21
13-1061	Emergency Management Specialists	90	\$13.68	\$13.05
13-1071	Employment, Recruitment, and Placement Specialists	400	\$16.33	\$15.09
13-1072	Compensation, Benefits, and Job Analysis Specialists	150	\$17.32	\$16.34
13-1073	Training and Development Specialists	620	\$15.41	\$15.35
13-1111	Management Analysts	230	\$23.59	\$21.15
13-1199	Business Operations Specialists, All Other	1,050	\$19.52	\$17.40
13-2011	Accountants and Auditors	2,330	NA	NA
13-2021	Appraisers and Assessors of Real Estate	520	\$18.64	\$18.57
13-2031	Budget Analysts	60	\$22.35	\$21.40

Business and Financial Operations Occupations Cont.

<u>Code</u>	<u>Occupational Title</u>	<u>2001 - Q4 Employment</u>	<u>Mean Wage</u>	<u>Median Wage</u>
13-2061	Financial Examiners	60	\$24.28	\$21.87
13-2071	Loan Counselors	100	\$11.94	\$11.25
13-2072	Loan Officers	1,690	\$22.67	\$23.92
13-2081	Tax Examiners, Collectors, and Revenue Agents	30	\$22.00	\$23.90
13-2099	Financial Specialists, All Other	150	\$14.05	\$11.66

Computer and Mathematical Science Occupations

15-1021	Computer Programmers	590	\$21.70	\$21.00
15-1031	Computer Software Engineers, Applications	270	\$28.37	\$28.00
15-1041	Computer Support Specialists	760	\$15.08	\$13.43
15-1071	Network and Computer Systems Administrators	630	\$21.24	\$21.00
15-1099	Computer Specialists, All Other	70	\$18.43	\$15.50

Architecture and Engineering Occupations

17-1011	Architects, Except Landscape and Naval	NA	\$22.72	\$20.28
17-1021	Cartographers and Photogrammetrists	50	\$15.76	\$14.80
17-2021	Agricultural Engineers	20	\$23.94	\$23.96
17-2051	Civil Engineers	200	\$27.32	\$26.78
17-2071	Electrical Engineers	160	\$28.79	\$28.69
17-2112	Industrial Engineers	300	\$22.75	\$23.02
17-2141	Mechanical Engineers	460	\$25.74	\$24.32
17-2199	Engineers, All Other	160	\$24.69	\$24.22
17-3011	Architectural and Civil Drafters	NA	\$16.35	\$15.38
17-3013	Mechanical Drafters	280	\$14.74	\$13.83
17-3022	Civil Engineering Technicians	230	\$14.73	\$13.79
17-3023	Electrical and Electronic Engineering Technicians	260	\$17.13	\$15.91
17-3025	Environmental Engineering Technicians	30	\$22.58	\$21.25
17-3026	Industrial Engineering Technicians	90	\$21.13	\$19.42
17-3027	Mechanical Engineering Technicians	180	\$18.75	\$17.92
17-3031	Surveying and Mapping Technicians	170	\$12.29	\$10.41
17-3099	All Other Drafters, Engineering, and Mapping Technicians	610	\$15.24	\$14.22

Life, Physical, and Social Science Occupations

19-1010	Agricultural and Food Scientists	280	\$21.49	\$20.80
19-1023	Zoologists and Wildlife Biologists	60	\$21.22	\$19.64
19-1031	Conservation Scientists	130	\$24.40	\$24.74
19-2021	Atmospheric and Space Scientists	30	\$26.05	\$28.55
19-2031	Chemists	210	\$20.11	\$18.54
19-2041	Environmental Scientists and Specialists, Including Health	70	\$23.43	\$21.52
19-3021	Market Research Analysts	100	\$18.90	\$15.24
19-3031	Clinical, Counseling, and School Psychologists	370	\$20.31	\$19.42
19-3051	Urban and Regional Planners	30	\$18.68	\$18.82
19-3099	Social Scientists and Related Workers, All Other	NA	\$14.45	\$17.86

Life, Physical, and Social Science Occupations, continued

<u>Code</u>	<u>Occupational Title</u>	<u>2001 - Q4 Employment</u>	<u>Mean Wage</u>	<u>Median Wage</u>
19-4021	Biological Technicians	40	\$13.76	\$13.64
19-4031	Chemical Technicians	130	\$13.74	\$12.71
19-4091	Environmental Science and Protection Technicians	70	\$14.70	\$14.65
19-4093	Forest and Conservation Technicians	170	\$14.10	\$14.93
19-4099	Life, Physical, and Social Science Technicians, All Other	100	\$12.78	\$11.45

Community and Social Services Occupations

21-1011	Substance Abuse and Behavioral Disorder Counselors	190	\$11.59	\$10.60
21-1012	Educational, Vocational, and School Counselors	1,250	\$15.83	\$16.98
21-1015	Rehabilitation Counselors	960	\$9.99	\$8.94
21-1021	Child, Family, and School Social Workers	430	\$13.50	\$12.92
21-1022	Medical and Public Health Social Workers	300	\$15.79	\$15.43
21-1023	Mental Health and Substance Abuse Social Workers	640	\$14.78	\$14.39
21-1093	Social and Human Service Assistants	1,230	\$9.64	\$9.30
21-2011	Clergy	90	\$16.33	\$15.42
21-9099	All Other Counselors, Social, and Religious Workers	360	\$12.49	\$12.32

Legal Occupations

23-1011	Lawyers	640	\$27.99	\$23.45
23-1023	Judges, Magistrate Judges, and Magistrates	190	NA	NA
23-2011	Paralegals and Legal Assistants	NA	\$14.15	\$12.96
23-2091	Court Reporters	70	\$18.32	\$18.86
23-2092	Law Clerks	30	\$8.38	\$8.36
23-9099	All Other Legal and Related Workers	200	\$18.23	\$17.96

Education, Training, and Library Occupations

25-1011	Business Teachers, Postsecondary	340	NA	NA
25-1021	Computer Science Teachers, Postsecondary	230	NA	NA
25-1022	Mathematical Science Teachers, Postsecondary	260	NA	NA
25-1032	Engineering Teachers, Postsecondary	290	NA	NA
25-1042	Biological Science Teachers, Postsecondary	190	NA	NA
25-1052	Chemistry Teachers, Postsecondary	90	NA	NA
25-1054	Physics Teachers, Postsecondary	50	NA	NA
25-1066	Psychology Teachers, Postsecondary	250	NA	NA
25-1067	Sociology Teachers, Postsecondary	120	NA	NA
25-1072	Nursing Instructors and Teachers, Postsecondary	230	NA	NA
25-1081	Education Teachers, Postsecondary	330	NA	NA
25-1082	Library Science Teachers, Postsecondary	NA	NA	NA
25-1113	Social Work Teachers, Postsecondary	NA	NA	NA
25-1121	Art, Drama, and Music Teachers, Postsecondary	560	NA	NA
25-1122	Communications Teachers, Postsecondary	130	NA	NA
25-1123	English Language and Literature Teachers, Postsecondary	440	NA	NA

Education, Training, and Library Occupations Cont.

<u>Code</u>	<u>Occupational Title</u>	<u>2001 - Q4 Employment</u>	<u>Mean Wage</u>	<u>Median Wage</u>
25-1124	Foreign Language & Literature Teachers,Postsecondary	90	NA	NA
25-1125	History Teachers,Postsecondary	140	NA	NA
25-1126	Philosophy and Religion Teachers,Postsecondary	100	NA	NA
25-1192	Home Economics Teachers,Postsecondary	30	NA	NA
25-1193	Recreation & Fitness Studies Teachers,Postsecondary	200	NA	NA
25-1194	Vocational Education Teachers, Postsecondary	650	\$16.31	\$15.71
25-2011	Preschool Teachers, Ex Special Education	470	\$10.10	\$8.50
25-2012	Kindergarten Teachers, Ex Special Education	620	NA	NA
25-2021	Elementary School Teachers, Ex Special Education	9,030	NA	NA
25-2022	Middle School Teachers, Ex Special & Voc Education	2,740	NA	NA
25-2031	Secondary School Teachers, Ex Special & Voc Educ	7,070	NA	NA
25-2032	Vocational Education Teachers, Secondary School	750	NA	NA
25-2041	Special Education Teachers, Preschool, Kinder., Element.	730	NA	NA
25-2042	Special Education Teachers, Middle School	370	NA	NA
25-2043	Special Education Teachers, Secondary School	550	NA	NA
25-3021	Self-Enrichment Education Teachers	270	\$14.00	\$14.04
25-3999	All Other Teachers, Primary, Secondary, and Adult	2,280	NA	NA
25-4010	Archivists, Curators, and Museum Technicians	140	\$10.45	\$9.36
25-4021	Librarians	770	\$16.88	\$17.88
25-4031	Library Technicians	420	\$7.77	\$7.45
25-9031	Instructional Coordinators	70	\$21.52	\$22.07
25-9041	Teacher Assistants	7,970	NA	NA

Arts, Design, Entertainment, Sports, and Media Occupations

27-1013	Fine Artists, Incl'd. Painters, Sculptors, and Illustrators	30	\$9.32	\$7.11
27-1023	Floral Designers	450	\$7.44	\$6.87
27-1024	Graphic Designers	420	\$11.44	\$11.01
27-1025	Interior Designers	NA	\$13.91	\$13.93
27-2021	Athletes and Sports Competitors	NA	NA	NA
27-2023	Umpires, Referees, and Other Sports Officials	450	NA	NA
27-2099	Entertainers, Performers & Related Workers,Other	20	NA	NA
27-3010	Announcers	420	\$9.01	\$8.22
27-3020	News Analysts, Reporters and Correspondents	270	\$10.18	\$9.88
27-3031	Public Relations Specialists	260	\$16.84	\$16.12
27-3041	Editors	270	NA	NA
27-4011	Audio and Video Equipment Technicians	NA	\$9.28	\$6.85
27-4021	Photographers	180	\$9.34	\$8.39

Healthcare Practitioner and Technical Occupations

<u>Code</u>	<u>Occupational Title</u>	<u>2001 - Q4 Employment</u>	<u>Mean Wage</u>	<u>Median Wage</u>
29-1031	Dietitians and Nutritionists	110	\$18.65	\$18.21
29-1051	Pharmacists	830	\$33.38	\$33.21
29-1066	Psychiatrists	30	\$52.47	\$52.68
29-1071	Physician Assistants	90	\$29.91	\$28.68
29-1111	Registered Nurses	7,970	\$17.99	\$16.90
29-1121	Audiologists	NA	\$19.49	\$16.98
29-1122	Occupational Therapists	180	\$25.50	\$24.56
29-1123	Physical Therapists	240	\$27.19	\$26.37
29-1125	Recreational Therapists	200	\$13.13	\$13.65
29-1126	Respiratory Therapists	240	\$16.45	\$16.30
29-1127	Speech-Language Pathologists	260	\$19.38	\$18.85
29-1131	Veterinarians	160	\$20.61	\$20.15
29-1199	Health Diagnosing and Treating Practitioners, All Other	NA	\$28.72	\$23.74
29-2011	Medical and Clinical Laboratory Technologists	610	\$16.80	\$16.49
29-2012	Medical and Clinical Laboratory Technicians	340	\$12.67	\$12.88
29-2021	Dental Hygienists	NA	\$24.71	\$25.16
29-2032	Diagnostic Medical Sonographers	60	\$23.32	\$22.09
29-2034	Radiologic Technologists and Technicians	580	\$15.10	\$15.03
29-2041	Emergency Medical Technicians and Paramedics	1,780	\$8.46	\$7.64
29-2051	Dietetic Technicians	40	\$9.56	\$9.83
29-2052	Pharmacy Technicians	480	\$9.59	\$9.33
29-2053	Psychiatric Technicians	NA	\$12.28	\$12.43
29-2055	Surgical Technologists	130	\$11.95	\$11.56
29-2056	Veterinary Technologists and Technicians	NA	\$10.49	\$11.64
29-2061	Licensed Practical and Licensed Vocational Nurses	3,090	\$13.10	\$12.70
29-2071	Medical Records and Health Information Technicians	730	\$10.73	\$10.18
29-2081	Opticians, Dispensing	130	\$9.18	\$8.60
29-9010	Occupational Health & Safety Specialists & Technicians	110	\$14.58	\$13.96
29-9091	Athletic Trainers	NA	NA	NA
29-9199	All Other Health Professionals and Technicians	160	\$11.88	\$10.95

Healthcare Support Occupations

31-1011	Home Health Aides	1,520	\$8.61	\$8.43
31-1012	Nursing Aides, Orderlies, and Attendants	9,800	\$8.29	\$8.20
31-1013	Psychiatric Aides	560	\$8.09	\$7.98
31-2011	Occupational Therapist Assistants	10	\$16.63	\$16.40
31-2021	Physical Therapist Assistants	210	\$15.09	\$15.27
31-2022	Physical Therapist Aides	340	\$8.98	\$8.71
31-9011	Massage Therapists	NA	\$15.96	\$16.32
31-9091	Dental Assistants	1,380	\$9.99	\$10.05
31-9092	Medical Assistants	940	\$9.37	\$8.89
31-9094	Medical Transcriptionists	450	\$10.31	\$10.14
31-9095	Pharmacy Aides	140	\$8.19	\$8.10
31-9099	Healthcare Support Workers, All Other	280	\$9.63	\$9.07

Protective Service Occupations

<u>Code</u>	<u>Occupational Title</u>	<u>2001 - Q4 Employment</u>	<u>Mean Wage</u>	<u>Median Wage</u>
33-1011	Line Supervisors/Managers of Correctional Officers	40	NA	NA
33-1012	Line Supervisors/Managers of Police and Detectives	440	\$18.38	\$17.80
33-1021	Line Supervisors of Fire Fighting and Prevention Workers	150	\$17.74	\$17.09
33-2011	Fire Fighters	1,670	\$9.27	\$8.57
33-2021	Fire Inspectors and Investigators	30	\$19.10	\$18.67
33-3011	Bailiffs	20	\$8.86	\$8.10
33-3012	Correctional Officers and Jailers	1,990	\$11.84	\$11.38
33-3021	Detectives and Criminal Investigators	180	\$15.84	\$15.50
33-3051	Police and Sheriff's Patrol Officers	1,960	\$12.73	\$12.33
33-9011	Animal Control Workers	50	\$9.28	\$9.09
33-9032	Security Guards	4,110	\$7.85	\$6.84
33-9091	Crossing Guards	120	\$7.30	\$7.29
33-9099	Protective Service Workers, All Other	230	\$9.32	\$7.69

Food Preparation and Serving Related Occupations

35-1011	Chefs and Head Cooks	NA	\$8.29	\$6.91
35-1012	Line Supervisors Food Preparation and Serving Workers	2,140	\$8.44	\$7.76
35-2011	Cooks, Fast Food	2,060	\$6.64	\$6.58
35-2012	Cooks, Institution and Cafeteria	4,530	\$7.86	\$7.76
35-2014	Cooks, Restaurant	3,270	\$6.54	\$6.39
35-2015	Cooks, Short Order	NA	\$6.88	\$6.50
35-2021	Food Preparation Workers	2,640	\$7.03	\$6.89
35-3011	Bartenders	3,720	\$6.13	\$6.22
35-3021	Combined Food Preparation & Serving Workers	5,230	\$6.56	\$6.52
35-3022	Counter Attendants, Cafeteria, Concession & Coffee Shop	2,040	\$6.53	\$6.45
35-3031	Waiters and Waitresses	11,130	\$6.50	\$6.34
35-3041	Food Servers, Nonrestaurant	560	\$6.32	\$6.31
35-9011	Dining Room & Cafeteria Attendants & Bartender Helpers	960	\$6.45	\$6.46
35-9021	Dishwashers	1,730	\$6.30	\$6.34
35-9031	Hosts & Hostesses, Restaurant, Lounge, & Coffee Shop	380	\$6.95	\$6.87
35-9099	Food Preparation & Serving Related Workers, All Other	340	\$8.14	\$7.81

Building and Grounds Cleaning and Maintenance Occupations

37-1011	Line Supervisors Housekeeping & Janitorial Workers	720	\$11.96	\$10.99
37-1012	Line Supervisors Lawn, Landscaping, Groundskeeping	150	\$14.61	\$14.27
37-2011	Janitors & Cleaners, Except Maids & Housekeepers	10,220	\$8.55	\$8.17
37-2012	Maids and Housekeeping Cleaners	4,480	\$6.83	\$6.73
37-2021	Pest Control Workers	NA	\$18.73	\$20.01
37-3011	Landscaping and Groundskeeping Workers	1,910	\$8.89	\$8.33
37-3012	Pesticide Handlers, Sprayers, and Applicators, Vegetation	320	\$11.11	\$10.53
37-9099	All Other Building & Grounds Cleaning and Maintenance	110	\$10.56	\$10.18

Personal Care and Service Occupations

<u>Code</u>	<u>Occupational Title</u>	<u>2001 - Q4 Employment</u>	<u>Mean Wage</u>	<u>Median Wage</u>
39-1021	Line Supervisorsof Personal Service Workers	170	\$12.26	\$11.89
39-2021	Nonfarm Animal Caretakers	500	\$7.48	\$6.90
39-3031	Ushers, Lobby Attendants, and Ticket Takers	180	\$6.54	\$6.45
39-3091	Amusement and Recreation Attendants	400	\$7.67	\$6.98
39-5011	Barbers	40	\$13.17	\$12.96
39-5012	Hairdressers, Hairstylists, and Cosmetologists	1,000	\$9.17	\$8.33
39-5092	Manicurists and Pedicurists	NA	\$9.13	\$8.99
39-6021	Tour Guides and Escorts	40	\$8.43	\$8.52
39-9011	Child Care Workers	1,630	\$7.36	\$7.07
39-9021	Personal and Home Care Aides	2,220	\$7.90	\$7.95
39-9031	Fitness Trainers and Aerobics Instructors	580	\$6.82	\$6.59
39-9032	Recreation Workers	690	\$9.76	\$8.43
39-9041	Residential Advisors	660	\$7.40	\$7.41
39-9099	Personal Care & Service Workers, All Other	160	\$7.03	\$6.66

Sales and Related Occupations

41-1011	Line Supervisors of Retail Sales Workers	4,760	\$11.52	\$10.21
41-1012	Line Supervisors of Non-Retail Sales Workers	420	\$21.83	\$21.63
41-2011	Cashiers	13,510	\$6.58	\$6.43
41-2021	Counter and Rental Clerks	1,200	\$7.81	\$6.63
41-2022	Parts Salespersons	1,670	\$10.64	\$9.93
41-2031	Retail Salespersons	13,240	\$8.25	\$7.05
41-3011	Advertising Sales Agents	530	\$14.78	\$12.50
41-3041	Travel Agents	100	\$10.84	\$10.51
41-3099	Sales Representatives, Services, All Other	NA	\$20.20	\$19.94
41-4012	Sales Reps, Wholesale& Mfg.,Except Technical/Scientific	3,350	\$20.27	\$17.75
41-9022	Real Estate Sales Agents	NA	\$19.72	\$18.41
41-9031	Sales Engineers	50	\$24.18	\$22.36
41-9041	Telemarketers	280	\$11.61	\$10.61
41-9099	Sales and Related Workers, All Other	780	\$14.92	\$13.56

Office and Administrative Support Occupations

43-1011	Line Supervisors/Office & Admin. Support Workers	4,270	\$15.32	\$14.25
43-2011	Switchboard Operators, Including Answering Service	930	\$8.90	\$8.95
43-3011	Bill and Account Collectors	520	\$10.78	\$10.25
43-3021	Billing and Posting Clerks and Machine Operators	1,820	\$11.08	\$10.16
43-3031	Bookkeeping, Accounting, and Auditing Clerks	8,560	\$10.47	\$9.93
43-3051	Payroll and Timekeeping Clerks	700	\$12.05	\$11.80
43-3061	Procurement Clerks	370	\$10.94	\$9.91
43-3071	Tellers	3,030	\$9.15	\$8.77
43-4031	Court, Municipal, and License Clerks	720	\$11.38	\$10.68
43-4051	Customer Service Representatives	4,100	\$11.11	\$10.63
43-4061	Eligibility Interviewers, Government Programs	500	\$15.20	\$15.37

Office and Administrative Support Occupations, continued

<u>Code</u>	<u>Occupational Title</u>	<u>2001 - Q4 Employment</u>	<u>Mean Wage</u>	<u>Median Wage</u>
43-4071	File Clerks	670	\$8.06	\$7.58
43-4081	Hotel, Motel, and Resort Desk Clerks	790	\$6.75	\$6.64
43-4121	Library Assistants, Clerical	770	\$7.61	\$6.87
43-4131	Loan Interviewers and Clerks	660	\$9.72	\$9.76
43-4151	Order Clerks	800	\$10.63	\$10.05
43-4161	Human Resources Assts, Except Payroll & Timekeeping	450	\$12.49	\$12.41
43-4171	Receptionists and Information Clerks	2,780	\$8.49	\$8.37
43-4181	Reservation/Transportation Ticket Agents & Travel Clerks	280	\$8.69	\$8.01
43-4999	All Other Financial, Information, and Record Clerks	990	\$11.96	\$11.07
43-5021	Couriers and Messengers	250	\$7.79	\$7.53
43-5031	Police, Fire, and Ambulance Dispatchers	770	\$9.91	\$9.84
43-5032	Dispatchers, Except Police, Fire, and Ambulance	680	\$14.19	\$13.99
43-5041	Meter Readers, Utilities	220	\$10.44	\$10.16
43-5051	Postal Service Clerks	280	\$18.80	\$19.28
43-5052	Postal Service Mail Carriers	1,840	\$17.71	\$18.60
43-5053	Postal Service Mail Sorters/Processors/Machine Operators	400	\$10.63	\$10.31
43-5061	Production, Planning, and Expediting Clerks	980	\$15.55	\$14.21
43-5071	Shipping, Receiving, and Traffic Clerks	2,630	\$10.87	\$10.23
43-5081	Stock Clerks and Order Fillers	6,360	\$9.36	\$8.03
43-5111	Weighers/Measurers/Checkers/Samplers, Recordkeeping	200	\$10.58	\$10.34
43-5199	Other Material Recording/Sched/Dispatch/Distributing	80	\$11.59	\$10.58
43-6011	Executive Secretaries and Administrative Assistants	2,320	\$13.53	\$13.00
43-6012	Legal Secretaries	1,070	\$12.14	\$12.32
43-6013	Medical Secretaries	1,110	\$10.22	\$9.33
43-6014	Secretaries, Except Legal, Medical, and Executive	7,550	\$9.69	\$9.38
43-9011	Computer Operators	490	\$12.80	\$11.01
43-9021	Data Entry Keyers	1,150	\$8.90	\$8.59
43-9022	Word Processors and Typists	400	\$9.08	\$8.01
43-9031	Desktop Publishers	160	\$10.45	\$10.05
43-9041	Insurance Claims and Policy Processing Clerks	680	\$11.09	\$9.65
43-9051	Mail Clerks/Mail Machine/Operators/Except Postal Service	490	\$7.27	\$6.88
43-9061	Office Clerks, General	11,720	\$8.83	\$8.45
43-9071	Office Machine Operators, Except Computer	250	\$7.10	\$6.73
43-9999	Other Secretaries, Admin. Assistants & Other Office Supt.	NA	\$10.26	\$9.09

Farming, Fishing, and Forestry Occupations

45-1011	Line Supervisors of Farming/Fishing/Forestry Workers	70	\$16.81	\$15.89
45-2011	Agricultural Inspectors	150	\$20.56	\$16.51
45-2041	Graders and Sorters, Agricultural Products	170	\$10.86	\$10.20
45-2091	Agricultural Equipment Operators	220	\$11.10	\$10.43
45-2092	Farmworkers/Laborers Crop, Nursery, & Greenhouse	170	\$8.09	\$7.52
45-2093	Farmworkers, Farm and Ranch Animals	480	\$7.39	\$7.07
45-9099	Farming, Fishing, and Forestry Workers, All Other	80	\$9.89	\$9.91

Construction and Extraction Occupations

<u>Code</u>	<u>Occupational Title</u>	<u>2001 - Q4 Employment</u>	<u>Mean Wage</u>	<u>Median Wage</u>
47-1011	Line Supervisors/Construction Trades & Extraction	2,110	\$17.99	\$17.58
47-2021	Brickmasons and Blockmasons	330	\$17.35	\$18.55
47-2031	Carpenters	2,550	\$12.86	\$12.25
47-2041	Carpet Installers	170	\$14.57	\$13.62
47-2051	Cement Masons and Concrete Finishers	780	\$11.20	\$10.76
47-2061	Construction Laborers	3,550	\$9.94	\$9.70
47-2071	Paving, Surfacing, and Tamping Equipment Operators	340	\$11.89	\$10.67
47-2073	Operating Engineers & Other Const. Equip. Operators	3,020	\$11.80	\$11.34
47-2081	Drywall and Ceiling Tile Installers	140	\$12.35	\$12.54
47-2111	Electricians	2,200	\$17.00	\$17.11
47-2141	Painters, Construction and Maintenance	570	\$12.55	\$11.62
47-2152	Plumbers, Pipefitters, and Steamfitters	1,390	\$17.55	\$18.58
47-2181	Roofers	390	\$10.63	\$10.26
47-3012	Helpers—Carpenters	510	\$9.25	\$9.76
47-3016	Helpers—Roofers	NA	\$9.23	\$9.47
47-3019	Helpers, Construction Trades, All Other	NA	\$10.50	\$10.62
47-4011	Construction and Building Inspectors	100	\$16.74	\$16.14
47-4021	Elevator Installers and Repairers	NA	\$14.80	\$15.45
47-4051	Highway Maintenance Workers	1,210	\$10.75	\$10.48
47-4999	All Other Construction Trades and Related Workers	220	\$11.99	\$11.02
47-5011	Derrick Operators, Oil and Gas	360	\$12.15	\$11.86
47-5013	Service Unit Operators, Oil, Gas, and Mining	560	\$14.11	\$13.07
47-5021	Earth Drillers, Except Oil and Gas	NA	\$11.82	\$11.95
47-5081	Helpers—Extraction Workers	730	\$10.24	\$9.73

Installation, Maintenance, and Repair Occupations

49-1011	Line Supervisors of Mechanics/Installers/Repairers	2,040	\$20.68	\$19.53
49-2011	Computer, Automated Teller & Office Machine Repairers	660	\$15.20	\$13.73
49-2022	Telecommunications Equip. Install/Repair, Except Line	640	\$20.96	\$21.83
49-2092	Electric Motor, Power Tool, and Related Repairers	110	\$12.35	\$10.26
49-2094	Electrical/Electronics Repair, Commercial/Industrial Equip.	190	\$17.81	\$16.59
49-2097	Electronic Home Entertainment Equip. Installers/Repairers	70	\$13.32	\$13.29
49-3011	Aircraft Mechanics and Service Technicians	230	\$17.64	\$17.10
49-3021	Automotive Body and Related Repairers	400	\$13.13	\$12.86
49-3022	Automotive Glass Installers and Repairers	NA	\$16.17	\$16.41
49-3023	Automotive Service Technicians and Mechanics	2,910	\$13.45	\$13.43
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	1,920	\$15.18	\$14.49
49-3041	Farm Equipment Mechanics	1,250	\$11.81	\$10.96
49-3042	Mobile Heavy Equipment Mechanics, Except Engines	800	\$14.82	\$14.53
49-3051	Motorboat Mechanics	60	\$9.75	\$9.83
49-3053	Outdoor Power Equipment/Other Small Engine Mechanics	NA	\$10.15	\$11.36
49-3091	Bicycle Repairers	NA	\$8.07	\$8.17
49-3092	Recreational Vehicle Service Technicians	30	\$11.48	\$11.84

Installation, Maintenance, and Repair Occupations, continued

<u>Code</u>	<u>Occupational Title</u>	<u>2001 - Q4 Employment</u>	<u>Mean Wage</u>	<u>Median Wage</u>
49-3093	Tire Repairers and Changers	290	\$10.79	\$10.12
49-3099	Other Vehicle & Mobile Equip. Mechs./Install/Repair	60	\$11.77	\$12.13
49-9021	Heating/Air Conditioning/Refrig. Mechs. and Installers	370	\$15.62	\$15.29
49-9031	Home Appliance Repairers	150	\$13.73	\$14.09
49-9041	Industrial Machinery Mechanics	1,350	\$15.63	\$15.25
49-9042	Maintenance and Repair Workers, General	5,540	\$11.82	\$11.35
49-9043	Maintenance Workers, Machinery	530	\$13.59	\$13.53
49-9051	Electrical Power-Line Installers and Repairers	780	\$20.87	\$21.26
49-9052	Telecommunications Line Installers and Repairers	1,120	\$21.66	\$23.83
49-9063	Musical Instrument Repairers and Tuners	NA	\$7.50	\$6.94
49-9069	Precision Instrument and Equipment Repairers, All Other	110	\$12.62	\$12.46
49-9098	Helpers—Installation, Maintenance, and Repair Workers	430	\$9.66	\$9.53
49-9099	Installation, Maintenance, and Repair Workers, All Other	590	\$13.22	\$11.77

Production Occupations

51-1011	Line Supervisors of Production & Operating Workers	3,690	\$18.69	\$18.45
51-2021	Coil Winders, Tapers, and Finishers	270	\$9.28	\$8.43
51-2041	Structural Metal Fabricators and Fitters	480	\$13.45	\$13.56
51-2092	Team Assemblers	4,370	\$11.70	\$11.19
51-2099	Assemblers and Fabricators, All Other	790	\$9.84	\$9.37
51-3021	Butchers and Meat Cutters	780	\$10.62	\$10.29
51-3093	Food Cooking Machine Operators and Tenders	NA	\$9.90	\$9.44
51-4031	Cut/Punch/Press Machine Setters/Operators/Tenders	1,540	\$11.07	\$10.47
51-4033	Grind/Lap/Polish/Buf Mach. Tool Set/Operate/Mech.	500	\$11.26	\$11.22
51-4034	Lathe/Turning Mach. Tool Set/Operate/Tend/	550	\$9.86	\$9.54
51-4035	Milling/Planing Machine Set/Operate & Tend	150	\$10.36	\$10.20
51-4041	Machinists	2,170	\$14.43	\$14.25
51-4111	Tool and Die Makers	200	\$16.21	\$15.19
51-4121	Welders, Cutters, Solderers, and Brazers	3,860	\$12.35	\$12.10
51-4122	Welding/Soldering/Brazing Machine Set, Operate/Tender	450	\$10.93	\$10.00
51-4191	Heat Treating Equip. Setters/Operators/Tenders	NA	\$7.63	\$6.55
51-4193	Plate Coat Machine Set/Operate/Tend, Metal and Plastic	170	\$11.29	\$11.09
51-4199	Metal Workers and Plastic Workers, All Other	260	\$9.71	\$8.49
51-5011	Bindery Workers	320	\$9.90	\$9.77
51-5021	Job Printers	230	\$11.94	\$11.99
51-5022	Prepress Technicians and Workers	300	\$10.16	\$10.09
51-6011	Laundry and Dry-Cleaning Workers	970	\$7.01	\$6.82
51-6021	Pressers, Textile, Garment, and Related Materials	170	\$7.89	\$7.90
51-6052	Tailors, Dressmakers, and Custom Sewers	60	\$7.15	\$6.88
51-7011	Cabinetmakers and Bench Carpenters	560	\$11.16	\$10.92
51-7041	Sawing Machine Setters, Operators, and Tenders, Wood	240	\$9.03	\$9.06

Production Occupations, continued

<u>Code</u>	<u>Occupational Title</u>	<u>2001 - Q4 Employment</u>	<u>Mean Wage</u>	<u>Median Wage</u>
51-7042	Woodworking Mach. Set/Operate/Tend, Except Sawing	540	\$9.25	\$8.96
51-8021	Stationary Engineers and Boiler Operators	190	\$17.64	\$16.89
51-8031	Water & Liquid Waste Treatment Plant /System Operators	520	\$12.66	\$12.01
51-8091	Chemical Plant and System Operators	190	\$13.82	\$12.94
51-9021	Crush/Grind/Polish Machine Setters/Operators/Tenders	390	\$11.56	\$11.24
51-9022	Grinding and Polishing Workers, Hand	260	\$9.94	\$9.90
51-9041	Extrude/Form/Press/Compacting Mach.Set/Operate/Tend	240	\$11.11	\$11.34
51-9051	Furnace/Kiln/Oven/Drier, & Kettle Operators and Tenders	160	\$13.50	\$13.81
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	2,070	\$13.90	\$13.49
51-9071	Jewelers and Precious Stone and Metal Workers	NA	\$13.71	\$15.06
51-9082	Medical Appliance Technicians	NA	\$6.89	\$6.63
51-9111	Packaging and Filling Machine Operators and Tenders	1,200	\$11.37	\$10.95
51-9121	Coating/Painting/Spraying Mach. Set/Operate/Tend	630	\$10.58	\$10.18
51-9123	Painting, Coating, and Decorating Workers	90	\$9.17	\$9.10
51-9194	Etchers and Engravers	NA	\$7.33	\$7.49
51-9195	Molders, Shapers, and Casters, Except Metal and Plastic	NA	\$8.84	\$9.18
51-9198	Helpers—Production Workers	NA	\$10.47	\$10.29
51-9199	Production Workers, All Other	840	\$8.82	\$8.46

Transportation and Material Moving Occupations

53-1021	Line Supervisors of Help/Labor/Material Movers, Hand	310	\$14.75	\$14.45
53-1031	Line Supervisors Transp./Material-Moving Mach.&Vehicle	690	\$17.28	\$16.39
53-2012	Commercial Pilots	150	NA	NA
53-3021	Bus Drivers, Transit and Intercity	420	\$9.97	\$9.04
53-3022	Bus Drivers, School	2,730	\$9.90	\$9.33
53-3031	Driver/Sales Workers	2,800	\$10.36	\$9.36
53-3032	Truck Drivers, Heavy and Tractor-Trailer	8,240	\$14.56	\$14.13
53-3033	Truck Drivers, Light or Delivery Services	3,650	\$11.91	\$9.93
53-3041	Taxi Drivers and Chauffeurs	230	\$6.84	\$6.60
53-6031	Service Station Attendants	950	\$8.16	\$8.05
53-7011	Conveyor Operators and Tenders	1,400	\$10.16	\$10.06
53-7021	Crane and Tower Operators	200	\$12.37	\$11.74
53-7031	Dredge Operators	NA	\$10.70	\$10.33
53-7032	Excavating & Loading Machine/Dragline Operators	390	\$12.52	\$11.89
53-7061	Cleaners of Vehicles and Equipment	780	\$8.10	\$7.60
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	6,780	\$9.44	\$8.83
53-7063	Machine Feeders and Offbearers	490	\$10.80	\$9.13
53-7064	Packers and Packagers, Hand	2,620	\$7.57	\$6.96
53-7071	Gas Compressor and Gas Pumping Station Operators	NA	\$21.68	\$21.27
53-7073	Wellhead Pumpers	NA	\$12.71	\$12.59
53-7081	Refuse and Recyclable Material Collectors	530	\$11.07	\$11.84

NA - Not Available

Appendix



Occupation Definitions

Management Occupations

11-1011 Chief Executives

Determine and formulate policies and provide the overall direction of companies or private and public sector organizations within the guidelines set up by a board of directors or similar governing body. Plan, direct, or coordinate operational activities at the highest level of management with the help of subordinate executives and staff managers.

Illustrative Examples: School Superintendent; Chief Operating Officer

11-1021 General and Operations Managers

Plan, direct, or coordinate the operations of companies or public and private sector organizations. Duties and responsibilities include formulating policies, managing daily operations, and planning the use of materials and human resources, but are too diverse and general in nature to be classified in any one functional area of management or administration, such as personnel, purchasing, or administrative services. Include owners and managers who head small business establishments whose duties are primarily managerial. Exclude "First-Line Supervisors/Managers of Retail Sales Workers" (41-1011) and workers in other small establishments.

Illustrative Examples: Industrial Organization Manager; District Manager; Department Store General Manager

11-1031 Legislators

Develop laws and statutes at the Federal, State, or local level. Include only elected officials.

Illustrative Examples: Representative; Council Member; Senator

11-2011 Advertising and Promotions Managers

Plan and direct advertising policies and programs or produce collateral materials, such as posters, contests, coupons, or give-aways, to create extra interest in the purchase of a product or service for a department, an entire organization, or on an account basis.

Illustrative Examples: Campaign Director; Circulation Director; Media Director

11-2021 Marketing Managers

Determine the demand for products and services offered by a firm and its competitors and identify potential customers. Develop pricing strategies with the goal of maximizing the firm's profits or share of the market while ensuring the firm's customers are satisfied. Oversee product development or monitor trends that indicate the need for new products and services.

Illustrative Examples: Fashion Coordinator; Marketing Director

11-2022 Sales Managers

Direct the actual distribution or movement of a product or service to the customer. Coordinate sales distribution by establishing sales territories, quotas, and goals and establish training programs for sales representatives. Analyze sales statistics gathered by staff to determine sales potential and inventory requirements and monitor the preferences of customers.

Illustrative Examples: Director of Sales; Export Manager; Regional Sales Manager

11-2031 Public Relations Managers

Plan and direct public relations programs designed to create and maintain a favorable public image for employer or client; or if engaged in fundraising, plan and direct activities to solicit and maintain funds for special projects and nonprofit organizations.

Illustrative Examples: Fundraising Director; Public Information Director; Publicity Director

11-3011 Administrative Services Managers

Plan, direct, or coordinate supportive services of an organization, such as recordkeeping, mail distribution, telephone operator/receptionist, and other office support services. May oversee facilities planning and maintenance and custodial operations. Exclude "Purchasing Managers" (11-3061).

Illustrative Examples: Facilities Manager; Space Officer

11-3021 Computer and Information Systems Managers

Plan, direct, or coordinate activities in such fields as electronic data processing, information systems, systems analysis, and computer programming. Exclude "Computer Specialists"

Illustrative Examples: Data Processing Manager; Computer Programming Manager; Data Systems Manager

11-3022 Computer and Information System Managers, Non R&D (SIC 822 Only)

11-3023 Computer and Information System Managers, R&D (SIC 822 Only)

11-3031 Financial Managers

Plan, direct, and coordinate accounting, investing, banking, insurance, securities, and other financial activities of a branch, office, or department of an establishment.

Illustrative Examples: Bank Director; Comptroller; Budget Director

11-3040 Human Resources Managers

Illustrative Example: Personnel Director

This broad occupation includes the following three detailed occupations:

11-3041 Compensation and Benefits Managers: Plan, direct, or coordinate compensation and benefits activities and staff of an organization. Include job analysis and position description managers.

11-3042 Training and Development Managers: Plan, direct, or coordinate the training and development activities and staff of an organization.

11-3049 Human Resources Managers, All Other

11-3051 Industrial Production Managers

Plan, direct, or coordinate the work activities and resources necessary for manufacturing products in accordance with cost, quality, and quantity specifications.

Illustrative Examples: Factory Superintendent; Plant Manager; Quality Control Manager

11-3061 Purchasing Managers

Plan, direct, or coordinate the activities of buyers, purchasing officers, and related workers involved in purchasing materials, products, and services. Include wholesale or retail trade merchandising managers and procurement managers.

Illustrative Examples: Director of Purchasing; Merchandise Manager; Procurement Manager

11-3071 Transportation, Storage, and Distribution Managers

Plan, direct, or coordinate transportation, storage, or distribution activities in accordance with governmental policies and regulations. Include logistics managers.

Illustrative Examples: Airport Manager; Schedule Planning Manager; Warehouse Manager

11-9011 Farm, Ranch, and Other Agricultural Managers

On a paid basis, manage farms, ranches, aquacultural operations, greenhouses, nurseries, timber tracts, cotton gins, packing houses, or other agricultural establishments for employers. Carry out production, financial, and marketing decisions relating to the managed operations following guidelines from the owner. May contract tenant farmers or producers to carry out the day-to-day activities of the managed operation. May supervise planting, cultivating, harvesting, and marketing activities. May prepare cost, production, and other records. May per-

form physical work and operate machinery.

Illustrative Examples: Fruit Grower; Farm Livestock Manager; Nursery and Greenhouse Manager

11-9012 Farmers and Ranchers

On an ownership or rental basis, operate farms, ranches, greenhouses, nurseries, timber tracts, or other agricultural production establishments which produce crops, horticultural specialties, livestock, poultry, finfish, shellfish, or animal specialties. Include operators of cotton gins, packing houses, and other post-harvest operations. May plant, cultivate, harvest, perform post-harvest activities, and market crops and livestock; may hire, train, and supervise farm workers or supervise a farm labor contractor; may prepare cost, production, and other records. May maintain and operate machinery and perform physical work.

Illustrative Examples: Beekeeper; Dairy Farmer; Tobacco Grower

11-9021 Construction Managers

Plan, direct, coordinate, or budget, usually through subordinate supervisory personnel, activities concerned with the construction and maintenance of structures, facilities, and systems. Participate in the conceptual development of a construction project and oversee its organization, scheduling, and implementation. Include specialized construction fields, such as carpentry or plumbing. Include general superintendents, project managers, and constructors who manage, coordinate, and supervise the construction process.

Illustrative Examples: Masonry Contractor Administrator; Developer; General Contractor

11-9031 Education Administrators, Preschool and Child Care Center/Program

Plan, direct, or coordinate the academic and nonacademic activities of preschool and child care centers or programs. Exclude "Preschool Teachers" (25-2011).

Illustrative Examples: Director of Child Care Center; Head Start Director

11-9032 Education Administrators, Elementary and Secondary School

Plan, direct, or coordinate the academic, clerical, or auxiliary activities of public or private elementary or secondary level schools.

Illustrative Examples: Director of Physical Education; Curriculum Director; School Principal

11-9033 Education Administrators, Postsecondary
Plan, direct, or coordinate research, instructional, student administration and services, and other educational activities at postsecondary institutions, including universities, colleges, and junior and community colleges.

Illustrative Examples: Director of Student Affairs; Dean; Registrar

11-9039 Education Administrators, All Other

All education administrators not listed separately.

Illustrative Examples: Director of Extension Work; Director of Vocational Training; Health Education Director

11-9040 Engineering Managers

Plan, direct, or coordinate activities in such fields as architecture and engineering or research and development in these fields. Exclude "Natural Sciences Managers" (11-9121).

Illustrative Examples: Engineering Research Manager; Safety Director; Technical Director

11-9041 Engineering Managers, Non R&D (SIC 822 Only)

11-9043 Engineering Managers, R&D (SIC 822 Only)

11-9051 Food Service Managers

Plan, direct, or coordinate activities of an organization or department that serves food and beverages.

Illustrative Examples: Banquet Director; Restaurant Manager; Catering Manager

11-9061 Funeral Directors

Perform various tasks to arrange and direct funeral services, such as coordinating transportation of body to mortuary for embalming, interviewing family or other authorized person to arrange details, selecting pallbearers, procuring official for religious rites, and providing transportation for mourners.

Illustrative Examples: Mortician; Funeral Home Manager; Undertaker

11-9071 Gaming Managers

Plan, organize, direct, control, or coordinate gaming operations in a casino. Formulate gaming policies for their area of responsibility.

Illustrative Examples: Casino Manager; Blackjack Manager; Dice Manager

11-9081 Lodging Managers

Plan, direct, or coordinate activities of an organization or department that provides lodging and other accommodations. Exclude "Food Service Managers" (11-9051) in lodging establishments.

Illustrative Examples: Director of Housing; Innkeeper; Hotel Manager

11-9111 Medical and Health Services Managers

Plan, direct, or coordinate medicine and health services in hospitals, clinics, managed care organizations, public health agencies, or similar organizations.

Illustrative Examples: Director of Occupational Therapy; Medical Records Administrator; Public Health Administrator

11-9121 Natural Sciences Managers

Plan, direct, or coordinate activities in such fields as life sciences, physical sciences, mathematics, statistics, and research and development in these fields. Exclude "Engineering Managers" (11-9041) and "Computer and Information Systems Managers" (11-3021).

Illustrative Examples: Geophysical Manager; Research and Development Director; Wildlife Manager

11-9122 Natural Sciences Managers, Non R&D (SIC 822 Only)

11-9123 Natural Sciences Managers, R&D (SIC 822 Only)

11-9131 Postmasters and Mail Superintendents

Direct and coordinate operational, administrative, management, and supportive services of a U.S. post office; or coordinate activities of workers engaged in postal and related work in assigned post office.

11-9141 Property, Real Estate, and Community Association Managers

Plan, direct, or coordinate selling, buying, leasing, or governance activities of commercial, industrial, or residential real estate properties. Include managers of homeowner and condominium associations, rented or leased housing units, buildings, or land (including rights-of-way).

Illustrative Examples: Condominium Association Manager; Trailer Park Manager

11-9151 Social and Community Service Managers

Plan, organize, or coordinate the activities of a social service program or community outreach organization. Oversee the program or organization's budget and policies regarding participant involvement, program requirements, and benefits. Work may involve directing social workers, counselors, or probation officers.

Illustrative Examples: Child Welfare Director; Youth Program Director; Director of Casework Services

11-9199 Managers, All Other

All managers not listed separately.

Illustrative Examples: City Clerk; Publisher; Vocational Education Director; Communications Manager

**Business and Financial
Operations Occupations**

**13-1011 Agents and Business Managers of Artists,
Performers, and Athletes**

Represent and promote artists, performers, and athletes to prospective employers. May handle contract negotiation and other business matters for clients.

Illustrative Examples: Booking Agent; Boxing Promoter; Theatrical Agent

**13-1021 Purchasing Agents and Buyers, Farm
Products**

Purchase farm products either for further processing or resale. Include Christmas tree contractors, grain brokers and market operators, grain buyers, and tobacco buyers.

Illustrative Examples: Cotton Broker; Livestock Buyer; Tobacco Buyer

**13-1022 Wholesale and Retail Buyers, Except Farm
Products**

Buy merchandise or commodities, other than farm products, for resale to consumers at the wholesale or retail level, including both durable and nondurable goods. Analyze past buying trends, sales records, price, and quality of merchandise to determine value and yield. Select, order, and authorize payment for merchandise according to contractual agreements. May conduct meetings with sales personnel and introduce new products. Include assistant buyers.

Illustrative Examples: Importer; Merchandiser; Wholesale Jobber

**13-1023 Purchasing Agents, Except Wholesale,
Retail, and Farm Products**

Purchase machinery, equipment, tools, parts, supplies, or services necessary for the operation of an establishment. Purchase raw or semi-finished materials for manufacturing. Include contract specialists, field contractors, purchasers, price analysts, tooling coordinators, and media buyers. Exclude Purchasing Agents and Buyers, Farm Products" (13-1021) and "Wholesale and Retail Buyers, Except Farm Products" (13-1022).

Illustrative Examples: Fuel Buyer; Lumber Buyer; Radio Time Buyer

**13-1031 Claims Adjusters, Examiners, and Investi-
gators**

Review settled claims to determine that payments and settlements have been made in accordance with company practices and procedures, ensuring that proper methods have been followed. Report overpayments, underpayments, and other irregularities. Confer with legal counsel on claims requiring litigation.

Illustrative Examples: Health Insurance Adjuster; Arson Investigator; Claims Agent

13-1032 Insurance Appraisers, Auto Damage

Appraise automobile or other vehicle damage to determine cost of repair for insurance claim settlement and seek agreement with automotive repair shop on cost of repair. Prepare insurance forms to indicate repair cost or cost estimates and recommendations.

Illustrative Example: Auto Damage Estimator

**13-1041 Compliance Officers, Except Agriculture,
Construction, Health and Safety, and
Transportation**

Examine, evaluate, and investigate eligibility for or conformity with laws and regulations governing contract compliance of licenses and permits, and other compliance and enforcement inspection activities not classified elsewhere. Exclude "Tax Examiners, Collectors, and Revenue Agents" (13-2081) and "Financial Examiners" (13-2061).

Illustrative Examples: Truant Officer; Coroner; Inspector of Weights and Measures

13-1051 Cost Estimators

Prepare cost estimates for product manufacturing, construction projects, or services to aid management in bidding on or determining price of product or service. May specialize according to particular service performed or type of product manufactured.

Illustrative Examples: Construction Estimator; Crating and Moving Estimator; Job Estimator

13-1061 Emergency Management Specialists

Coordinate disaster response or crisis management activities, provide disaster preparedness training, and prepare emergency plans and procedures for natural (e.g., hurricanes, floods, earthquakes), wartime, or technological (e.g., nuclear power plant emergencies, hazardous materials spills) disasters or hostage situations.

Illustrative Examples: Director of Civil Defense; Public Safety Director

**13-1071 Employment, Recruitment, and Placement
Specialists**

Recruit and place workers.

Illustrative Examples: Employment Interviewer; Personnel Recruiter; Placement Assistant

13-1072 Compensation, Benefits, and Job Analysis Specialists

Conduct programs of compensation and benefits and job analysis for employer. May specialize in specific areas, such as position classification and pension programs.

Illustrative Examples: Occupational Analyst; Relocation Director; Wage Conciliator

13-1073 Training and Development Specialists

Conduct training and development programs for employees.

Illustrative Examples: Training Coordinator; Workforce Development Specialist; Supervisor, Training Personnel

13-1111 Management Analysts

Conduct organizational studies and evaluations, design systems and procedures, conduct work simplifications and measurement studies, and prepare operations and procedures manuals to assist management in operating more efficiently and effectively. Include program analysts and management consultants. Exclude "Computer Systems Analysts" (15-1051) and "Operations Research Analysts" (15-2031).

Illustrative Examples: Business Consultant; Industrial Analyst

13-1121 Meeting and Convention Planners

Coordinate activities of staff and convention personnel to make arrangements for group meetings and conventions.

Illustrative Examples: Conference Planner; Conference Service Coordinator; Convention Manager

13-1199 Business Operations Specialists, All Other

All business operations specialists not listed separately.

Illustrative Examples: Grant Coordinator; Purser; Logistics Engineer; Employee Relations Specialist; Personnel Arbitrator; Human Resource specialists, not specified

13-2011 Accountants and Auditors

Examine, analyze, and interpret accounting records for the purpose of giving advice or preparing statements. Install or advise on systems of recording costs or other financial and budgetary data.

Illustrative Examples: Bursar; Certified Public Accountant; Tax Accountant

13-2021 Appraisers and Assessors of Real Estate

Appraise real property to determine its fair value. May assess taxes in accordance with prescribed schedules.

Illustrative Examples: Building Appraiser; County Assessor; Property Evaluator

13-2031 Budget Analysts

Examine budget estimates for completeness, accuracy, and conformance with procedures and regulations. Analyze budgeting and accounting reports for the purpose of maintaining expenditure controls.

Illustrative Examples: Budget Examiner; Fiscal Agent; Fiscal Officer

13-2041 Credit Analyst

Examine budget estimates for completeness, accuracy, and conformance with procedures and regulations. Analyze budgeting and accounting reports for the purpose of maintaining expenditure controls.

Illustrative Examples: Budget Examiner; Fiscal Agent; Fiscal Officer

13-2051 Financial Analysts

Conduct quantitative analyses of information affecting investment programs of public or private institutions.

Illustrative Examples: Bond Analyst; Investment Analyst; Securities Consultant

13-2052 Personal Financial Advisors

Advise clients on financial plans utilizing knowledge of tax and investment strategies, securities, insurance, pension plans, and real estate. Duties include assessing clients' assets, liabilities, cash flow, insurance coverage, tax status, and financial objectives to establish investment strategies.

Illustrative Examples: Budget Counselor; Financial Planner; Estate Planner

13-2053 Insurance Underwriters

Review individual applications for insurance to evaluate degree of risk involved and determine acceptance of applications.

Illustrative Examples: Bond Underwriter; Insurance Analyst

13-2061 Financial Examiners

Enforce or ensure compliance with laws and regulations governing financial and securities institutions and financial and real estate transactions. May examine, verify correctness of, or establish authenticity of records.

Illustrative Examples: Bank Examiner; Payroll Examiner; Pension Examiner

13-2071 Loan Counselors

Provide guidance to prospective loan applicants who have problems qualifying for traditional loans. Guidance may include determining the best type of loan and explaining loan requirements or restrictions.

Illustrative Examples: Credit Counselor; Farm Mortgage Agent; Financial Aid Counselor

13-2072 Loan Officers

Evaluate, authorize, or recommend approval of commercial, real estate, or credit loans. Advise borrowers on financial status and methods of payments. Include mortgage loan officers and agents, collection analysts, loan servicing officers, and loan underwriters.

Illustrative Examples: Loan Reviewer; Escrow Officer; Mortgage Consultant

13-2081 Tax Examiners, Collectors, and Revenue Agents

Determine tax liability or collect taxes from individuals or business firms according to prescribed laws and regulations.

Illustrative Examples: Tax Investigator; Revenue Agent; Tax Auditor

13-2082 Tax Preparers

Prepare tax returns for individuals or small businesses but do not have the background or responsibilities of an accredited or certified public accountant.

Illustrative Examples: Income Tax Advisor; Income Tax Consultant; Tax Specialist

13-2099 Financial Specialists, All Other

All financial specialists not listed separately.

Illustrative Examples: Bail Bondsman; Executor of Estate; Foreign Exchange Trader

Computer and Mathematical Occupations

15-1011 Computer and Information Scientists, Research

Conduct research into fundamental computer and information science as theorists, designers, or inventors. Solve or develop solutions to problems in the field of computer hardware and software.

15-1021 Computer Programmers

Convert project specifications and statements of problems and procedures to detailed logical flow charts for coding into computer language. Develop and write computer programs to store, locate, and retrieve specific documents, data, and information. May program web sites.

Illustrative Examples: Computer Programmer Aide; Mainframe Programmer; Systems Programmer

15-1022 Computer Programmers, Non R&D (SIC 822 Only)

15-1023 Computer Programmers, R&D (SIC 822 Only)

15-1031 Computer Software Engineers, Applications

Develop, create, and modify general computer applications software or specialized utility programs. Analyze user needs and develop software solutions. Design software or customize software for client use with the aim of optimizing operational efficiency. May analyze and design databases within an application area, working individually or coordinating database development as part of a team. Exclude "Computer Hardware Engineers" (17-2061).

Illustrative Examples: Applications Developer; Programmer Analyst; Software Designer

15-1032 Computer Software Engineers, Systems Software

Research, design, develop, and test operating systems-level software, compilers, and network distribution software for medical, industrial, military, communications, aerospace, business, scientific, and general computing applications. Set operational specifications and formulate and analyze software requirements. Apply principles and techniques of computer science, engineering, and mathematical analysis.

Illustrative Example: EDP Systems Engineers

15-1041 Computer Support Specialists

Provide technical assistance to computer system users. Answer questions or resolve computer problems for clients in person, via telephone or from remote location. May provide assistance concerning the use of computer hardware and software, including printing, installation, word processing, electronic mail, and operating systems. Exclude "Network and Computer Systems Administrators" (15-1071).

Illustrative Examples: Customer Support Analyst; Help Desk Technician; Work Station Support Specialist

15-1051 Computer Systems Analysts

Analyze science, engineering, business, and all other data processing problems for application to electronic data processing systems. Analyze user requirements, procedures, and problems to automate or improve existing systems and review computer system capabilities, workflow, and scheduling limitations. May analyze or recommend commercially available software. Exclude

persons working primarily as “Engineers” (17-2011 through 17-2199), “Mathematicians” (15-2021), or “Scientists” (19-1011 through 19-3099). May supervise computer programmers.

Illustrative Examples: Health Systems Computer Analyst; Data Processing Systems Project Planner; Information Systems Consultant

15-1052 Computer Systems Analysts, Non R&D (SIC 822 Only)

15-1053 Computer Systems Analysts, R&D (SIC 822 Only)

15-1061 Database Administrators

Coordinate changes to computer databases, test and implement the database applying knowledge of database management systems. May plan, coordinate, and implement security measures to safeguard computer databases.

Illustrative Examples: Automatic Data Processing Planner; Database Design Analyst; Database Security Administrator

15-1071 Network and Computer Systems Administrators

Install, configure, and support an organization’s local area network (LAN), wide area network (WAN), and Internet system or a segment of a network system. Maintain network hardware and software. Monitor network to ensure network availability to all system users and perform necessary maintenance to support network availability. May supervise other network support and client server specialists and plan, coordinate, and implement network security measures. Exclude “Computer Support Specialists”

Illustrative Examples: LAN/WAN Administrator; Network Control Operator; Network Security Administrator

15-1081 Network Systems and Data Communications Analysts

Analyze, design, test, and evaluate network systems, such as local area networks (LAN), wide area networks (WAN), Internet, intranet, and other data communications systems. Perform network modeling, analysis, and planning. Research and recommend network and data communications hardware and software. Include telecommunications specialists who deal with the interfacing of computer and communications equipment. May supervise computer programmers.

Illustrative Examples: Internet Developer; Systems Integrator; Webmaster

15-1099 Computer Specialists, All Other

All computer specialists not listed separately.

Illustrative Example: Computer Laboratory Technician

15-2011 Actuaries

Analyze statistical data, such as mortality, accident, sickness, disability, and retirement rates and construct probability tables to forecast risk and liability for payment of future benefits. May ascertain premium rates required and cash reserves necessary to ensure payment of future benefits.

Illustrative Example: Actuarial Mathematician

15-2021 Mathematicians

Conduct research in fundamental mathematics or in application of mathematical techniques to science, management, and other fields. Solve or direct solutions to problems in various fields by mathematical methods.

Illustrative Examples: Algebraist; Cipher Expert; Cryptographer

15-2031 Operations Research Analysts

Formulate and apply mathematical modeling and other optimizing methods using a computer to develop and interpret information that assists management with decision-making, policy formulation, or other managerial functions. May develop related software, service, or products. Frequently concentrates on collecting and analyzing data and developing decision support software. May develop and supply optimal time, cost, or logistics networks for program evaluation, review, or implementation.

Illustrative Examples: Procedure Analyst; Method Consultant; Standards Analyst

15-2041 Statisticians

Engage in the development of mathematical theory or apply statistical theory and methods to collect, organize, interpret, and summarize numerical data to provide usable information. May specialize in fields, such as bio-statistics, agricultural statistics, business statistics, economic statistics, or other fields. Include mathematical statisticians.

Illustrative Examples: Biometrician; Sampling Expert; Statistical Analyst

15-2099 Mathematical Scientists, All Other

All mathematical scientists not listed separately.

Illustrative Examples: Geometrician; Harmonic Analyst; Weight Analyst

15-3011 Mathematical Technicians

Apply standardized mathematical formulas, principles, and methodology to technological problems in engineering and physical sciences in relation to specific industrial and research objectives, processes, equipment, and products.

15-9099 Mathematical Occupations, All Other

Illustrative Examples: Geometrician; Weight Analyst

**Architecture and Engineering
Occupations**

17-1011 Architects, Except Landscape and Naval

Plan and design structures, such as private residences, office buildings, theaters, factories, and other structural property. *Illustrative Examples: Architectural Designer; Building Consultant; Site Planner*

17-1012 Landscape Architects

Plan and design land areas for such projects as parks and other recreational facilities, airports, highways, hospitals, schools, land subdivisions, and commercial, industrial, and residential sites.

Illustrative Examples: Environmental Planner; Land Planner; Landscape Designer

17-1021 Cartographers and Photogrammetrists

Collect, analyze, and interpret geographic information provided by geodetic surveys, aerial photographs, and satellite data. Research, study, and prepare maps and other spatial data in digital or graphic form for legal, social, political, educational, and design purposes. May work with Geographic Information Systems (GIS). May design and evaluate algorithms, data structures, and user interfaces for GIS and mapping systems.

Illustrative Examples: Field Map Editor; Mapper; Topographer

17-1022 Surveyors

Make exact measurements and determine property boundaries. Provide data relevant to the shape, contour, gravitation, location, elevation, or dimension of land or land features on or near the earth's surface for engineering, mapmaking, mining, land evaluation, construction, and other purposes.

Illustrative Examples: Geodetic Surveyor; Land Examiner; Mineral Surveyor

**17-1099 Architects, Surveyors, and Cartographers,
All Other**

17-2001 Engineers, Non R&D (SIC 822 Only)

17-2002 Engineers, R&D (SIC 822 Only)

17-2011 Aerospace Engineers

Perform a variety of engineering work in designing, constructing, and testing aircraft, missiles, and spacecraft. May conduct basic and applied research to evaluate adaptability of materials and equipment to aircraft design and manufacture. May recommend improvements in testing equipment and techniques.

Illustrative Examples: Aerodynamicist; Flight Test Engineer; Aeronautical Engineer

17-2021 Agricultural Engineers

Apply knowledge of engineering technology and biological science to agricultural problems concerned with power and machinery, electrification, structures, soil and water conservation, and processing of agricultural products. *Illustrative Examples: Farm Equipment Engineer; Agricultural Research Engineer*

17-2031 Biomedical Engineers

Apply knowledge of engineering, biology, and biomechanical principles to the design, development, and evaluation of biological and health systems and products, such as artificial organs, prostheses, instrumentation, medical information systems, and health management and care delivery systems.

Illustrative Example: Orthopedic Designer

17-2041 Chemical Engineers

Design chemical plant equipment and devise processes for manufacturing chemicals and products, such as gasoline, synthetic rubber, plastics, detergents, cement, paper, and pulp, by applying principles and technology of chemistry, physics, and engineering.

Illustrative Examples: Absorption and Adsorption Engineer; Explosives Engineer; Fuels Engineer

17-2051 Civil Engineers

Perform engineering duties in planning, designing, and overseeing construction and maintenance of building structures, and facilities, such as roads, railroads, airports, bridges, harbors, channels, dams, irrigation projects, pipelines, power plants, water and sewage systems, and waste disposal units. Include architectural, structural, traffic, ocean, and geo-technical engineers. Exclude "Hydrologists" (19-2043).

Illustrative Examples: Bridge Engineer; Construction Engineer; Concrete Engineer

17-2061 Computer Hardware Engineers

Research, design, develop, and test computer or computer-related equipment for commercial, industrial, military, or scientific use. May supervise the manufacturing and installation of computer or computer-related equipment and components. Exclude "Computer Software Engineers, Applications" (15-1031) and "Computer Software Engineers, Systems Software" (15-1032).

17-2071 Electrical Engineers

Design, develop, test, or supervise the manufacturing and installation of electrical equipment, components, or systems for commercial, industrial, military, or scientific use. Exclude "Computer Hardware Engineers" (17-2061).

Illustrative Examples: Power Distribution Engineer; Illuminating Engineer; Relay Engineer

17-2072 Electronics Engineers, Except Computer

Research, design, develop, and test electronic components and systems for commercial, industrial, military, or scientific use utilizing knowledge of electronic theory and materials properties. Design electronic circuits and components for use in fields such as telecommunications, aerospace guidance and propulsion control, acoustics, or instruments and controls. Exclude "Computer Hardware Engineers" (17-2061).

Illustrative Examples: Communications Engineer; Circuit Design Engineer; Guidance and Control Systems Engineer

17-2081 Environmental Engineers

Design, plan, or perform engineering duties in the prevention, control, and remediation of environmental health hazards utilizing various engineering disciplines. Work may include waste treatment, site remediation, or pollution control technology.

Illustrative Examples: Soil Engineer; Industrial Hygiene Engineer; Pollution Control Engineer

17-2111 Health and Safety Engineers, Except Mining Safety Engineers and Inspectors

Promote worksite or product safety by applying knowledge of industrial processes, mechanics, chemistry, psychology, and industrial health and safety laws. Include industrial product safety engineers.

Illustrative Examples: Fire-Protection Engineer; Industrial Health Engineer Product Safety Engineer

17-2112 Industrial Engineers

Design, develop, test, and evaluate integrated systems for managing industrial production processes including human work factors, quality control, inventory control, logistics and material flow, cost analysis, and production coordination. Exclude "Health and Safety Engineers, Except Mining Safety Engineers and Inspectors" (17-2111).

Illustrative Examples: Packaging Engineer; Time Study Engineer; Plant Engineer

17-2121 Marine Engineers and Naval Architects

Design, develop, and evaluate the operation of marine vessels, ship machinery, and related equipment, such as power supply and propulsion systems.

Illustrative Examples: Marine Architect; Port Engineer; Ship Surveyor

17-2131 Materials Engineers

Evaluate materials and develop machinery and processes to manufacture materials for use in products that must meet specialized design and performance specifications. Develop new uses for known materials. Include those working with composite materials or specializing in one type of material, such as graphite, metal and metal alloys, ceramics and glass, plastics and polymers, and naturally occurring materials. Include metallurgists and metallurgical engineers, ceramic engineers, and welding engineers.

Illustrative Examples: Ceramic Engineer; Corrosion Engineer; Metallurgical Engineer

17-2141 Mechanical Engineers

Perform engineering duties in planning and designing tools, engines, machines, and other mechanically functioning equipment. Oversee installation, operation, maintenance, and repair of such equipment as centralized heat, gas, water, and steam systems.

Illustrative Examples: Combustion Engineer; Plant Equipment Engineer; Hydraulic Engineer

17-2151 Mining and Geological Engineers, Including Mining Safety Engineers

Determine the location and plan the extraction of coal, metallic ores, nonmetallic minerals, and building materials, such as stone and gravel. Work involves conducting preliminary surveys of deposits or undeveloped mines and planning their development; examining deposits or mines to determine whether they can be worked at a profit; making geological and topographical surveys; evolving methods of mining best suited to character, type, and size of deposits; and supervising mining operations.

Illustrative Examples: Exploration Engineer; Mineral Engineer; Mine Equipment Design Engineer

17-2161 Nuclear Engineers

Conduct research on nuclear engineering problems or apply principles and theory of nuclear science to problems concerned with release, control, and utilization of nuclear energy and nuclear waste disposal.

Illustrative Examples: Atomic Process Engineer; Radiation Engineer; Reactor Engineer

17-2171 Petroleum Engineers

Devise methods to improve oil and gas well production and determine the need for new or modified tool designs. Oversee drilling and offer technical advice to achieve economical and satisfactory progress.

Illustrative Examples: Drilling Engineer; Natural Gas Engineer; Oil Well Surveying Engineer

17-2199 Engineers, All Other

All engineers not listed separately.

Illustrative Examples: Optical Engineer; Salvage Engineer; Ordnance Engineer

17-3001 Drafters, Engineering, and Mapping Technicians, Non R&D (SIC 822 Only)

17-3002 Drafters, Engineering, and Mapping Technicians, R&D (SIC 822 Only)

17-3011 Architectural and Civil Drafters

Prepare detailed drawings of architectural and structural features of buildings or drawings and topographical relief maps used in civil engineering projects, such as highways, bridges, and public works. Utilize knowledge of building materials, engineering practices, and mathematics to complete drawings.

Illustrative Example: Structural Drafter

17-3012 Electrical and Electronics Drafters

Prepare wiring diagrams, circuit board assembly diagrams, and layout drawings used for manufacture, installation, and repair of electrical equipment in factories, power plants, and buildings.

17-3013 Mechanical Drafters

Prepare detailed working diagrams of machinery and mechanical devices, including dimensions, fastening methods, and other engineering information.

Illustrative Examples: Die Designer; Aeronautical Drafter

17-3021 Aerospace Engineering and Operations Technicians

Operate, install, calibrate, and maintain integrated computer/communications systems consoles, simulators,

and other data acquisition, test, and measurement instruments and equipment to launch, track, position, and evaluate air and space vehicles. May record and interpret test data.

Illustrative Examples: Wind Tunnel Technician; Flight Data Technician; Altitude Chamber Technician

17-3022 Civil Engineering Technicians

Apply theory and principles of civil engineering in planning, designing, and overseeing construction and maintenance of structures and facilities under the direction of engineering staff or physical scientists.

Illustrative Example: Highway Technician

17-3023 Electrical and Electronic Engineering Technicians

Apply electrical and electronic theory and related knowledge, usually under the direction of engineering staff, to design, build, repair, calibrate, and modify electrical components, circuitry, controls, and machinery for subsequent evaluation and use by engineering staff in making engineering design decisions. Exclude "Broadcast Technicians" (27-4012).

Illustrative Examples: Calibration Laboratory Technician; Semiconductor Development Technician; Instrumentation Technician

17-3024 Electro-Mechanical Technicians

Operate, test, and maintain unmanned, automated, servomechanical, or electromechanical equipment. May operate unmanned submarines, aircraft, or other equipment at worksites, such as oil rigs, deep ocean exploration, or hazardous waste removal. May assist engineers in testing and designing robotics equipment.

17-3025 Environmental Engineering Technicians

Apply theory and principles of environmental engineering to modify, test, and operate equipment and devices used in the prevention, control, and remediation of environmental pollution, including waste treatment and site remediation. May assist in the development of environmental pollution remediation devices under direction of engineer.

Illustrative Examples: Air Analysis Technician; Soil Technician

17-3026 Industrial Engineering Technicians

Apply engineering theory and principles to problems of industrial layout or manufacturing production, usually under the direction of engineering staff. May study and record time, motion, method, and speed involved in performance of production, maintenance, clerical, and other

worker operations for such purposes as establishing standard production rates or improving efficiency.

Illustrative Examples: Methods Study Analyst; Quality Control Technician; Time Study Analyst

17-3027 Mechanical Engineering Technicians

Apply theory and principles of mechanical engineering to modify, develop, and test machinery and equipment under direction of engineering staff or physical scientists.

Illustrative Examples: Heat Transfer Technician; Optomechanical Technician; Tool Analyst

17-3031 Surveying and Mapping Technicians

Perform surveying and mapping duties, usually under the direction of a surveyor, cartographer, or photogrammetrist to obtain data used for construction, mapmaking, boundary location, mining, or other purposes. May calculate mapmaking information and create maps from source data, such as surveying notes, aerial photography, satellite data, or other maps to show topographical features, political boundaries, and other features. May verify accuracy and completeness of topographical maps. Exclude "Surveyors" (17-1022), "Cartographers and Photogrammetrists" (17-1021), and "Geoscientists, Except Hydrologists and Geographers" (19-2042).

Illustrative Examples: Cartographic Technician; Map Drafter; Stereo Map Plotter Operator

17-3099 Drafters, Engineering, and Mapping Technicians, All Other

Illustrative Examples: Geological Drafter; Hull Drafter, Laser Specialist; Metallurgical Technician; Material Stress Tester

Life, Physical, and Social Science Occupations

19-1001 Life Scientists, Non R&D (SIC 822 Only)

19-1002 Life Scientists, R&D (SIC 822 Only)

19-1010 Agricultural and Food Scientists

Illustrative Examples: Dairy Scientist; Food Scientists; Agronomist; Plant Pathologist; Pomologist
This broad occupation includes the following three detailed occupations:

19-1011 Animal Scientists: Conduct research in the genetics, nutrition, reproduction, growth, and development of domestic farm animals.

19-1012 Food Scientists and Technologists: Use chemistry, microbiology, engineering, and other sciences to study the principles underlying the processing and deterioration of foods; analyze food content to determine levels of vitamins, fat, sugar, and protein; discover new food sources; research ways to make processed foods safe, palatable, and healthful; and apply food science knowledge to determine best ways to process, package, preserve, store, and distribute food.

19-1013 Soil and Plant Scientists: Conduct research in breeding, physiology, production, yield, and management of crops and agricultural plants, their growth in soils, and control of pests; or study the chemical, physical, biological, and mineralogical composition of soils as they relate to plant or crop growth. May classify and map soils and investigate effects of alternative practices on soil and crop productivity.

19-1021 Biochemists and Biophysicists

Study the chemical composition and physical principles of living cells and organisms, their electrical and mechanical energy, and related phenomena. May conduct research to further understanding of the complex chemical combinations and reactions involved in metabolism, reproduction, growth, and heredity. May determine the effects of foods, drugs, serums, hormones, and other substances on tissues and vital processes of living organisms.

19-1022 Microbiologists

Investigate the growth, structure, development, and other characteristics of microscopic organisms, such as bacteria, algae, or fungi. Include medical microbiologists who study the relationship between organisms and disease or the effects of antibiotics on microorganisms.

Illustrative Examples: Bacteriologist; Cytologist; Virologist

19-1023 Zoologists and Wildlife Biologists

Study the origins, behavior, diseases, genetics, and life processes of animals and wildlife. May specialize in wildlife research and management, including the collection and analysis of biological data to determine the environmental effects of present and potential use of land and water areas.

Illustrative Examples: Ecologist; Herpetologist; Ornithologist

19-1031 Conservation Scientists

Manage, improve, and protect natural resources to maximize their use without damaging the environment. May

conduct soil surveys and develop plans to eliminate soil erosion or to protect rangelands from fire and rodent damage. May instruct farmers, agricultural production managers, or ranchers in best ways to use crop rotation, contour plowing, or terracing to conserve soil and water; in the number and kind of livestock and forage plants best suited to particular ranges; and in range and farm improvements, such as fencing and reservoirs for stock watering. Exclude "Zoologists and Wildlife Biologists" (19-1023) and "Foresters" (19-1032).

Illustrative Examples: Range Manager; Conservation Officer

19-1032 Foresters

Manage forested lands for economic, recreational, and conservation purposes. May inventory the type, amount, and location of standing timber, appraise the timber's worth, negotiate the purchase, and draw up contracts for procurement. May determine how to conserve wildlife habitats, creek beds, water quality, and soil stability, and how best to comply with environmental regulations. May devise plans for planting and growing new trees, monitor trees for healthy growth, and determine the best time for harvesting. Develop forest management plans for public and privately owned forested lands.

Illustrative Examples: Forest Ecologist; Timber Management Specialist

19-1041 Epidemiologists

Investigate and describe the determinants and distribution of disease, disability, and other health outcomes and develop the means for prevention and control.

Illustrative Example: Malariologist

19-1042 Medical Scientists, Except Epidemiologists

Conduct research dealing with the understanding of human diseases and the improvement of human health. Engage in clinical investigation or other research, production, technical writing, or related activities. Include medical scientists such as physicians, dentists, public health specialists, pharmacologists, and medical pathologists. Exclude practitioners who provide medical or dental care or dispense drugs.

Illustrative Examples: Cancer Researcher; Toxicologist; Virologist

19-1099 Life Scientists, All Other

All life scientists not listed separately.

Illustrative Examples: Biological Scientist, not specified; Paleobotanist; Geneticist

19-2001 Physical Scientists, Non R&D (SIC 822 Only)

19-2002 Physical Scientists, R&D (SIC 822 Only)

19-2011 Astronomers

Observe, research, and interpret celestial and astronomical phenomena to increase basic knowledge and apply such information to practical problems.

19-2012 Physicists

Conduct research into the phases of physical phenomena, develop theories and laws on the basis of observation and experiments, and devise methods to apply laws and theories to industry and other fields.

Illustrative Examples: Fluid Dynamicist; Rheologist; Thermodynamicist

19-2021 Atmospheric and Space Scientists

Investigate atmospheric phenomena and interpret meteorological data gathered by surface and air stations, satellites, and radar to prepare reports and forecasts for public and other uses. Include weather analysts and forecasters whose functions require the detailed knowledge of a meteorologist.

Illustrative Examples: Climatologist; Meteorologist; Weather Forecaster

19-2031 Chemists

Conduct qualitative and quantitative chemical analyses or chemical experiments in laboratories for quality or process control or to develop new products or knowledge. Exclude "Geoscientists, Except Hydrologists and Geographers" (19-2042) and "Biochemists and Biophysicists" (19-1021).

Illustrative Examples: Inorganic Chemist; Chemical Analyst

19-2032 Materials Scientists

Research and study the structures and chemical properties of various natural and manmade materials, including metals, alloys, rubber, ceramics, semiconductors, polymers, and glass. Determine ways to strengthen or combine materials or develop new materials with new or specific properties for use in a variety of products and applications. Include glass scientists, ceramic scientists, metallurgical scientists, and polymer scientists.

19-2041 Environmental Scientists and Specialists, Including Health

Conduct research or perform investigation for the purpose of identifying, abating, or eliminating sources of pollutants or hazards that affect either the environment or the health of the population. Utilizing knowledge of various scientific disciplines may collect, synthesize, study, report, and take action based on data derived from

measurements or observations of air, food, soil, water, and other sources. Exclude “Zoologists and Wildlife Biologists” (19-1023), “Conservation Scientists” (19-1031), “Forest and Conservation Technicians” (19-4093), “Fish and Game Wardens” (33-3031), and “Forest and Conservation Workers” (45-4011).

Illustrative Examples: Environmental Analyst; Water Pollution Specialist

19-2042 Geoscientists, Except Hydrologists and Geographers

Study the composition, structure, and other physical aspects of the earth. May use geological, physics, and mathematics knowledge in exploration for oil, gas, minerals, or underground water; or in waste disposal, land reclamation, or other environmental problems. May study the earth’s internal composition, atmospheres, oceans, and its magnetic, electrical, and gravitational forces. Include mineralogists, crystallographers, paleontologists, stratigraphers, geodesists, and seismologists.

Illustrative Examples: Oceanographer; Paleontologist; Seismologist

19-2043 Hydrologists

Research the distribution, circulation, and physical properties of underground and surface waters; study the form and intensity of precipitation, its rate of infiltration into the soil, movement through the earth, and its return to the ocean and atmosphere.

Illustrative Example: Hydrogeologist

19-2099 Physical Scientists, All Other

All physical scientists not listed separately.

19-3001 Social Scientists, Non R&D (SIC 822 Only)

19-3002 Social Scientists, R&D (SIC 822 Only)

19-3011 Economists

Conduct research, prepare reports, or formulate plans to aid in solution of economic problems arising from production and distribution of goods and services. May collect and process economic and statistical data using econometric and sampling techniques. Exclude “Market Research Analysts” (19-3021).

Illustrative Examples: Econometrician; Economic Research Analyst; Industrial Economist

19-3021 Market Research Analysts

Research market conditions in local, regional, or national areas to determine potential sales of a product or service. May gather information on competitors, prices, sales, and methods of marketing and distribution. May

use survey results to create a marketing campaign based on regional preferences and buying habits.

Illustrative Examples: Advertising Analyst; Marketing Consultant; Marketing Forecaster

19-3022 Survey Researchers

Design or conduct surveys. May supervise interviewers who conduct the survey in person or over the telephone. May present survey results to client. Exclude “Statisticians” (15-2041), “Economists” (19-3011), and “Market Research Analysts” (19-3021).

Illustrative Example: Pollster

19-3031 Clinical, Counseling, and School Psychologists

Diagnose and treat mental disorders; learning disabilities; and cognitive, behavioral, and emotional problems using individual, child, family, and group therapies. May design and implement behavior modification programs.

Illustrative Examples: Vocational Psychologist; Child Psychologist

19-3032 Industrial-Organizational Psychologists

Apply principles of psychology to personnel, administration, management, sales, and marketing problems. Activities may include policy planning; employee screening, training and development; and organizational development and analysis. May work with management to reorganize the work setting to improve worker productivity.

Illustrative Example: Engineering Psychologist

19-3036 Clinical, Counseling, and School Psychologists, Non R&D (SIC 822 Only)

19-3037 Clinical, Counseling, and School Psychologists, R&D (SIC 822 Only)

19-3039 Psychologists, All Other

All psychologists not listed separately.

Illustrative Examples: Social Psychologist; Psychometrist

19-3040 Sociologists

Study human society and social behavior by examining the groups and social institutions that people form, as well as various social, religious, political, and business organizations. May study the behavior and interaction of groups, trace their origin and growth, and analyze the influence of group activities on individual members.

Illustrative Examples: Criminologist; Penologist; Social Welfare Research Worker

19-3051 Urban and Regional Planners

Develop comprehensive plans and programs for use of land and physical facilities of local jurisdictions, such as towns, cities, counties, and metropolitan areas.

Illustrative Example: City Planner

19-3091 Anthropologists and Archeologists

Study the origin, development, and behavior of humans. May study the way of life, language, or physical characteristics of existing people in various parts of the world. May engage in systematic recovery and examination of material evidence, such as tools or pottery remaining from past human cultures, in order to determine the history, customs, and living habits of earlier civilizations.

Illustrative Example: Political Anthropologist

19-3092 Geographers

Study nature and use of areas of earth's surface, relating and interpreting interactions of physical and cultural phenomena. Conduct research on physical aspects of a region, including land forms, climates, soils, plants and animals, and conduct research on the spatial implications of human activities within a given area, including social characteristics, economic activities, and political organization, as well as researching interdependence between regions at scales ranging from local to global.

19-3093 Historians

Research, analyze, record, and interpret the past as recorded in sources, such as government and institutional records, newspapers and other periodicals, photographs, interviews, films, and unpublished manuscripts, such as personal diaries and letters.

Illustrative Examples: Genealogist; Historical Society Director

19-3094 Political Scientists

Study the origin, development, and operation of political systems. Research a wide range of subjects, such as relations between the United States and foreign countries, the beliefs and institutions of foreign nations, or the politics of small towns or a major metropolis. May study topics, such as public opinion, political decision-making, and ideology. May analyze the structure and operation of governments, as well as various political entities. May conduct public opinion surveys, analyze election results, or analyze public documents.

Illustrative Examples: Political Analyst; Political Consultant

19-3099 Social Scientists and Related Workers, All Other

All social scientists and related workers not listed separately.

*Illustrative Examples: Ethnologist; Linguist; Philologist
Social Psychologist; Psychometrist; Psychologists, not specified*

19-4001 Life, Physical, and Social Science Technicians, Non R&D (SIC 822 Only)

19-4002 Life, Physical, and Social Science Technicians, R&D (SIC 822 Only)

19-4011 Agricultural and Food Science Technicians

Work with agricultural scientists in food, fiber, and animal research, production, and processing; assist with animal breeding and nutrition work; under supervision, conduct tests and experiments to improve yield and quality of crops or to increase the resistance of plants and animals to disease or insects. Include technicians who assist food scientists or food technologists in the research, development, production technology, quality control, packaging, processing, and use of foods.

Illustrative Examples: Inseminator; Feed Research Technician; Dairy Technologist

19-4021 Biological Technicians

Assist biological and medical scientists in laboratories. Set up, operate, and maintain laboratory instruments and equipment, monitor experiments, make observations, and calculate and record results. May analyze organic substances, such as blood, food, and drugs.

Illustrative Examples: Biotechnologist; Wildlife Technician Specimen Technician

19-4031 Chemical Technicians

Conduct chemical and physical laboratory tests to assist scientists in making qualitative and quantitative analyses of solids, liquids, and gaseous materials for purposes, such as research and development of new products or processes, quality control, maintenance of environmental standards, and other work involving experimental, theoretical, or practical application of chemistry and related sciences.

Illustrative Examples: Assayer; Fiber Analyst; Paint Tester

19-4041 Geological and Petroleum Technicians

Assist scientists in the use of electrical, sonic, or nuclear measuring instruments in both laboratory and production activities to obtain data indicating potential sources of metallic ore, gas, or petroleum. Analyze mud and drill cuttings. Chart pressure, temperature, and other characteristics of wells or bore holes. Investigate and collect information leading to the possible discovery of new oil fields.

Illustrative Examples: Field Scout; Crude Tester; Seismic Observer

19-4051 Nuclear Technicians

Assist scientists in both laboratory and production activities by performing technical tasks involving nuclear physics, primarily in operation, maintenance, production, and quality control support activities.
Illustrative Examples: Accelerator Operator; Radiation Monitor

19-4061 Social Science Research Assistants

Assist social scientists in laboratory, survey, and other social research. May perform publication activities, laboratory analysis, quality control, or data management. Normally these individuals work under the direct supervision of a social scientist and assist in those activities which are more routine. Exclude "Graduate Teaching Assistants" (25-1191) who both teach and do research.
Illustrative Examples: City Planning Aide; Economic Research Assistant; Historian Research Assistant

19-4091 Environmental Science and Protection Technicians, Including Health

Performs laboratory and field tests to monitor the environment and investigate sources of pollution, including those that affect health. Under direction of an environmental scientist or specialist, may collect samples of gases, soil, water, and other materials for testing and take corrective actions as assigned.
Illustrative Example: Pollution Control Technician

19-4092 Forensic Science Technicians

Collect, identify, classify, and analyze physical evidence related to criminal investigations. Perform tests on weapons or substances, such as fiber, hair, and tissue to determine significance to investigation. May testify as expert witnesses on evidence or crime laboratory techniques. May serve as specialists in area of expertise, such as ballistics, fingerprinting, handwriting, or biochemistry.
Illustrative Examples: Ballistic Expert; Fingerprint Classifier; Polygraph Examiner

19-4093 Forest and Conservation Technicians

Compile data pertaining to size, content, condition, and other characteristics of forest tracts, under direction of foresters; train and lead forest workers in forest propagation, fire prevention and suppression. May assist conservation scientists in managing, improving, and protecting rangelands and wildlife habitats, and help provide technical assistance regarding the conservation of soil, water, and related natural resources.

Illustrative Examples: Grazing Examiner; Soil Tester; Tree Warden

19-4099 Life, Physical, and Social Science Technicians, All Other

All life, physical, and social science technicians not listed separately.
Illustrative Examples: Social Science Research Assistant; City Planning Aide; Economic Research Assistant; Historian Research Assistant; Radiographer; Laser Technician; Meteorological Aide

Community and Social Service Occupations

21-1011 Substance Abuse and Behavioral Disorder Counselors

Counsel and advise individuals with alcohol, tobacco, drug, or other problems, such as gambling and eating disorders. May counsel individuals, families, or groups or engage in prevention programs. Exclude "Social Workers" (21-1021 through 21-1029), "Psychologists" (19-3031 through 19-3039), and "Mental Health Counselors" (21-1014) providing these services.
Illustrative Examples: Addiction Counselor; Chemical Dependency Counselor; Drug Counselor

21-1012 Educational, Vocational, and School Counselors

Counsel individuals and provide group educational and vocational guidance services.
Illustrative Examples: Curriculum Counselor; Guidance Counselor; Educational Adviser

21-1013 Marriage and Family Therapists

Diagnose and treat mental and emotional disorders, whether cognitive, affective, or behavioral, within the context of marriage and family systems. Apply psychotherapeutic and family systems theories and techniques in the delivery of professional services to individuals, couples, and families for the purpose of treating such diagnosed nervous and mental disorders. Exclude "Social Workers" (21-1021 through 21-1029) and "Psychologists" of all types (19-3031 through 19-3039).
Illustrative Examples: Family Counselor; Marriage Counselor

21-1014 Mental Health Counselors

Counsel with emphasis on prevention. Work with individuals and groups to promote optimum mental health. May help individuals deal with addictions and substance abuse; family, parenting, and marital problems; suicide;

stress management; problems with self-esteem; and issues associated with aging and mental and emotional health. Exclude "Social Workers" (21-1021 through 21-1029), "Psychiatrists" (29-1066), and "Psychologists" (19-3031 through 19-3039).

21-1014 Rehabilitation Counselors

Counsel individuals to maximize the independence and employability of persons coping with personal, social, and vocational difficulties that result from birth defects, illness, disease, accidents, or the stress of daily life. Coordinate activities for residents of care and treatment facilities. Assess client needs and design and implement rehabilitation programs that may include personal and vocational counseling, training, and job placement. *Illustrative Examples: Coordinator of Rehabilitation Services; Homemaking Rehabilitation Consultant*

21-1021 Child, Family, and School Social Workers

Provide social services and assistance to improve the social and psychological functioning of children and their families and to maximize the family well being and the academic functioning of children. May assist single parents, arrange adoptions, and find foster homes for abandoned or abused children. In schools, they address such problems as teenage pregnancy, misbehavior, and truancy. May also advise teachers on how to deal with problem children.

Illustrative Examples: Adoption Agent; Child Abuse Worker; Foster Care Worker

21-1022 Medical and Public Health Social Workers

Provide persons, families, or vulnerable populations with the psychosocial support needed to cope with chronic, acute, or terminal illnesses, such as Alzheimer's, cancer, or AIDS. Services include advising family care givers, providing patient education and counseling, and making necessary referrals for other social services.

Illustrative Examples: Bereavement Counselor; Hospice Social Worker; Medical Caseworker

21-1023 Mental Health and Substance Abuse Social Workers

Assess and treat individuals with mental, emotional, or substance abuse problems, including abuse of alcohol, tobacco, and/or other drugs. Activities may include individual and group therapy, crisis intervention, case management, client advocacy, prevention, and education.

Illustrative Examples: Community Mental Health Worker; Psychiatric Social Worker

21-1029 Social Workers, All Other

All social workers not listed separately.

Illustrative Examples: Case Worker; Case Supervisor; Welfare Investigator

21-1091 Health Educators

Promote, maintain, and improve individual and community health by assisting individuals and communities to adopt healthy behaviors. Collect and analyze data to identify community needs prior to planning, implementing, monitoring, and evaluating programs designed to encourage healthy lifestyles, policies and environments. May also serve as a resource to assist individuals, other professionals, or the community, and may administer fiscal resources for health education programs.

Illustrative Examples: Public Health Advisor; Public Health Representative

21-1092 Probation Officers and Correctional Treatment Specialists

Provide social services to assist in rehabilitation of law offenders in custody or on probation or parole. Make recommendations for actions involving formulation of rehabilitation plan and treatment of offender, including conditional release and education and employment stipulations.

Illustrative Examples: Attendance Officer; Parole Officer

21-1093 Social and Human Service Assistants

Assist professionals from a wide variety of fields, such as psychology, rehabilitation, or social work, to provide client services, as well as support for families. May assist clients in identifying available benefits and social and community services and help clients obtain them. May assist social workers with developing, organizing, and conducting programs to prevent and resolve problems relevant to substance abuse, human relationships, rehabilitation, or adult daycare. Exclude "Rehabilitation Counselors" (21-1015), "Personal and Home Care Aides" (39-9021), "Eligibility Interviewers, Government Programs" (43-4061), and "Psychiatric Technicians" (29-2053).

Illustrative Examples: Case Aide; Home Visitor; Human Services Worker

21-1096 Health Educators, Non R&D (SIC 822 Only)

21-1097 Health Educators, R&D (SIC 822 Only)

21-2011 Clergy

Conduct religious worship and perform other spiritual functions associated with beliefs and practices of religious

faith or denomination. Provide spiritual and moral guidance and assistance to members.

Illustrative Examples: Bishop; Parish Priest; Rabbi

21-2021 Directors, Religious Activities and Education

Direct and coordinate activities of a denominational group to meet religious needs of students. Plan, direct, or coordinate church school programs designed to promote religious education among church membership. May provide counseling and guidance relative to marital, health, financial, and religious problems.

Illustrative Examples: Director of Religious Education; Minister of Education; Youth Director

21-2099 Religious Workers, All Other

All religious workers not listed separately.

Illustrative Examples: Religious Healer; Ecclesiastical Worker; Missionary

21-9099 Counselors, Social and Religious Workers, All Other

Illustrative Examples: Race Relations Advisor; Welfare Investigator; Case Supervisor; Veteran's Service Officer; Community Organization Worker; Community Organization Worker; Veteran's Service Officer; Mental Hygienist; Race Relations Adviser

Legal Occupations

23-1011 Lawyers

Represent clients in criminal and civil litigation and other legal proceedings, draw up legal documents, and manage or advise clients on legal transactions. May specialize in a single area or may practice broadly in many areas of law.

Illustrative Examples: Attorney; Real Estate Attorney; Corporate Counsel

23-1021 Administrative Law Judges, Adjudicators, and Hearing Officers

Conduct hearings to decide or recommend decisions on claims concerning government programs or other government-related matters and prepare decisions. Determine penalties or the existence and the amount of liability, or recommend the acceptance or rejection of claims, or compromise settlements.

Illustrative Examples: Adjudicator; Traffic Court Referee

23-1022 Arbitrators, Mediators, and Conciliators

Facilitate negotiation and conflict resolution through dialogue. Resolve conflicts outside of the court system by mutual consent of parties involved.

Illustrative Example: Ombudsman

23-1023 Judges, Magistrate Judges, and Magistrates

Arbitrate, advise, adjudicate, or administer justice in a court of law. May sentence defendant in criminal cases according to government statutes. May determine liability of defendant in civil cases. May issue marriage licenses and perform wedding ceremonies.

Illustrative Examples: Circuit Court Judge; Jurist; Justice

23-2011 Paralegals and Legal Assistants

Assist lawyers by researching legal precedent, investigating facts, or preparing legal documents. Conduct research to support a legal proceeding, to formulate a defense, or to initiate legal action.

Illustrative Examples: Legal Assistant; Legal Investigator

23-2091 Court Reporters

Use verbatim methods and equipment to capture, store, retrieve, and transcribe pretrial and trial proceedings or other information. Include stenocaptioners who operate computerized stenographic captioning equipment to provide captions of live or prerecorded broadcasts for hearing-impaired viewers.

Illustrative Examples: Court Transcriber; Stenocaptioner; Mask Reporter

23-2092 Law Clerks

Assist lawyers or judges by researching or preparing legal documents. May meet with clients or assist lawyers and judges in court. Exclude "Lawyers" (23-1011) and "Paralegals and Legal Assistants" (23-2011).

Illustrative Example: Legal Clerk

23-2093 Title Examiners, Abstractors, and Searchers

Search real estate records, examine titles, or summarize pertinent legal or insurance details for a variety of purposes. May compile lists of mortgages, contracts, and other instruments pertaining to titles by searching public and private records for law firms, real estate agencies, or title insurance companies.

Illustrative Examples: Abstract Clerk; Escrow Officer; Lien Searcher

23-9099 Legal and Related Workers, All Other

Illustrative Examples: Brief Writer; Legislative Aide; Patent Examiner

**Education, Training, and
Library Occupations**

25-1011 Business Teachers, Postsecondary

Teach courses in business administration and management, such as accounting, finance, human resources, labor relations, marketing, and operations research. Include both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

Illustrative Examples: Accounting Teacher; Marketing Teacher; Shorthand Teacher

**25-1021 Computer Science Teachers,
Postsecondary**

Teach courses in computer science. May specialize in a field of computer science, such as the design and function of computers or operations and research analysis. Include both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

**25-1022 Mathematical Science Teachers,
Postsecondary**

Teach courses pertaining to mathematical concepts, statistics, and actuarial science and to the application of original and standardized mathematical techniques in solving specific problems and situations. Include both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

Illustrative Examples: Actuarial Science Teacher; Calculus Teacher; Geometry Teacher

25-1031 Architecture Teachers, Postsecondary

Teach courses in architecture and architectural design, such as architectural environmental design, interior architecture/design, and landscape architecture. Include both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

Illustrative Example: Landscape Architecture Teacher

25-1032 Engineering Teachers, Postsecondary

Teach courses pertaining to the application of physical laws and principles of engineering for the development of machines, materials, instruments, processes, and services. Include teachers of subjects, such as chemical, civil, electrical, industrial, mechanical, mineral, and petroleum engineering. Include both teachers primarily engaged in teaching and those who do a combination of both teaching and research. Exclude "Computer Science Teachers, Postsecondary" (25-1021).

Illustrative Examples: Aeronautics Engineering Teacher; Civil Engineering Teacher; Electrical Engineering Teacher

**25-1041 Agricultural Sciences Teachers,
Postsecondary**

Teach courses in the agricultural sciences. Include teachers of agronomy, dairy sciences, fisheries management, horticultural sciences, poultry sciences, range management, and agricultural soil conservation. Include both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

Illustrative Examples: Dairy Science Teacher; Farm Management Teacher; Agricultural Soil Conservation Teacher

**25-1042 Biological Science Teachers,
Postsecondary**

Teach courses in biological sciences. Include both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

Illustrative Examples: Bacteriology Teacher; Biochemistry Teacher; Genetics Teacher

**25-1043 Forestry and Conservation Science
Teachers, Postsecondary**

Teach courses in environmental and conservation science. Include both teachers primarily engaged in teaching and those who do a combination of both teaching and research. Exclude "Agricultural Science Teachers" (25-1041).

Illustrative Examples: Forest Management Teacher; Forest Pathology Teacher

**25-1051 Atmospheric, Earth, Marine, and Space
Sciences Teachers, Postsecondary**

Teach courses in the physical sciences, except chemistry and physics. Include both teachers primarily engaged in teaching, and those who do a combination of both teaching and research.

Illustrative Examples: Climatology Teacher; Geology Teacher; Oceanography Teacher

25-1052 Chemistry Teachers, Postsecondary

Teach courses pertaining to the chemical and physical properties and compositional changes of substances. Work may include instruction in the methods of qualitative and quantitative chemical analysis. Include both teachers primarily engaged in teaching, and those who do a combination of both teaching and research. Exclude "Biological Science Teachers, Postsecondary" (25-1042) who teach biochemistry.

Illustrative Examples: Food Technology Teacher; Pharmacognosy Teacher

**25-1053 Environmental Science Teachers,
Postsecondary**

Teach courses in environmental science. Include both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

25-1054 Physics Teachers, Postsecondary

Teach courses pertaining to the laws of matter and energy. Include both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

Illustrative Examples: Aerodynamics Teacher; Ballistics Teacher; Thermodynamics Teacher

25-1061 Anthropology and Archeology Teachers, Postsecondary

Teach courses in anthropology or archeology. Include both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

Illustrative Example: Paleology Teacher

25-1062 Area, Ethnic, and Cultural Studies Teachers, Postsecondary

Teach courses pertaining to the culture and development of an area (e.g., Latin America), an ethnic group, or any other group (e.g., women's studies, urban affairs). Include both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

Illustrative Example: Ethnology Teacher

25-1063 Economics Teachers, Postsecondary

Teach courses in economics. Include both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

Illustrative Examples: Agricultural Economics Teacher; Industrial Economics Teacher

25-1064 Geography Teachers, Postsecondary

Teach courses in geography. Include both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

Illustrative Example: Cartography Teacher

25-1065 Political Science Teachers, Postsecondary

Teach courses in political science, international affairs, and international relations. Include both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

Illustrative Examples: Government Teacher; International Relations Teacher; Public Policy Teacher

25-1066 Psychology Teachers, Postsecondary

Teach courses in psychology, such as child, clinical, and developmental psychology, and psychological counseling. Include both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

Illustrative Examples: Child Development Teacher; Human Relations Teacher; Applied Psychology Teacher

25-1067 Sociology Teachers, Postsecondary

Teach courses in sociology. Include both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

25-1071 Health Specialties Teachers, Postsecondary

Teach courses in health specialties, such as veterinary medicine, dentistry, pharmacy, therapy, laboratory technology, and public health. Exclude "Nursing Instructors and Teachers, Postsecondary" (25-1072) and "Biological Science Teachers, Postsecondary" (25-1042) who teach medical science.

Illustrative Examples: Pharmacology Teacher; Dentistry Teacher; Nutrition Teacher

25-1072 Nursing Instructors and Teachers, Postsecondary

Demonstrate and teach patient care in classroom and clinical units to nursing students. Include both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

Illustrative Examples: Registered Nursing Instructor; Practical Nursing Instructor; Nurses Aides Instructors

25-1081 Education Teachers, Postsecondary

Teach courses pertaining to education, such as counseling, curriculum, guidance, instruction, teacher education, and teaching English as a second language. Include both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

25-1082 Library Science Teachers, Postsecondary

Teach courses in library science. Include both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

Illustrative Example: Teacher of Medical Record Librarians

25-1111 Criminal Justice and Law Enforcement Teachers, Postsecondary

Teach courses in criminal justice, corrections, and law enforcement administration. Include both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

nation of both teaching and research.

Illustrative Examples: Criminology Teacher; Penology Teacher

25-1112 Law Teachers, Postsecondary

Teach courses in law. Include both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

25-1113 Social Work Teachers, Postsecondary

Teach courses in social work. Include both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

25-1121 Art, Drama, and Music Teachers, Postsecondary

Teach courses in drama, music, and the arts including fine and applied art, such as painting and sculpture, or design and crafts. Include both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

Illustrative Examples: Photography Teacher; Piano Teacher; Music Director

25-1122 Communications Teachers, Postsecondary

Teach courses in communications, such as organizational communications, public relations, radio/television broadcasting, and journalism. Include both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

Illustrative Examples: Journalism Teacher; Public Speaking Teacher

25-1123 English Language and Literature Teachers, Postsecondary

Teach courses in English language and literature, including linguistics and comparative literature. Include both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

Illustrative Examples: Classics Teacher; Etymology Teacher; Creative Writing Teacher

25-1124 Foreign Language and Literature Teachers, Postsecondary

Teach courses in foreign (i.e., other than English) languages and literature. Include both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

Illustrative Examples: Arabic Teacher; Russian Teacher; Spanish Teacher

25-1125 History Teachers, Postsecondary

Teach courses in human history and historiography. Include both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

25-1126 Philosophy and Religion Teachers, Postsecondary

Teach courses in philosophy, religion, and theology. Include both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

Illustrative Examples: Divinity Teacher; Metaphysics Teacher; Theology Teacher

25-1191 Graduate Teaching Assistants

Assist department chairperson, faculty members, or other professional staff members in college or university by performing teaching or teaching-related duties, such as teaching lower level courses, developing teaching materials, preparing and giving examinations, and grading examinations or papers. Graduate assistants must be enrolled in a graduate school program. Graduate assistants who primarily perform non-teaching duties, such as laboratory research, should be reported in the occupational category related to the work performed.

25-1192 Home Economics Teachers, Postsecondary

Teach courses in child care, family relations, finance, nutrition, and related subjects as pertaining to home management. Include both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

Illustrative Examples: Food and Nutrition Teacher; Sewing Teacher

25-1193 Recreation and Fitness Studies Teachers, Postsecondary

Teach courses pertaining to recreation, leisure, and fitness studies, including exercise physiology and facilities management. Include both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

Illustrative Examples: Swimming Teacher; Leisure Studies Instructor

25-1194 Vocational Education Teachers, Postsecondary

Teach or instruct vocational or occupational subjects at the postsecondary level (but at less than the baccalaureate) to students who have graduated or left high school. Include correspondence school instructors; industrial,

commercial and government training instructors; and adult education teachers and instructors who prepare persons to operate industrial machinery and equipment and transportation and communications equipment. Teaching may take place in public or private schools whose primary business is education or in a school associated with an organization whose primary business is other than education.

Illustrative Examples: Real Estate Instructor; Auto Mechanics Teacher; Barbering Teacher

25-1199 Postsecondary Teachers, All Other

All postsecondary teachers not listed separately.

Illustrative Examples: Urban Planning Teacher; Labor Relations Teacher; Survey Research Teacher

25-2011 Preschool Teachers, Except Special Education

Instruct children (normally up to 5 years of age) in activities designed to promote social, physical, and intellectual growth needed for primary school in preschool, day care center, or other child development facility. May be required to hold State certification. Exclude “Child Care Workers” (39-9011) and “Special Education Teachers” (25-2041 through 25-2043).

Illustrative Examples: Head Start Teacher; Childhood Development Teacher; Nursery School Teacher

25-2012 Kindergarten Teachers, Except Special Education

Teach elemental natural and social science, personal hygiene, music, art, and literature to children from 4 to 6 years old. Promote physical, mental, and social development. May be required to hold State certification. Exclude “Special Education Teachers” (25-2041 through 25-2043).

25-2021 Elementary School Teachers, Except Special Education

Teach pupils in public or private schools at the elementary level basic academic, social, and other formative skills. Exclude “Special Education Teachers” (25-2041 through 25-2043).

25-2022 Middle School Teachers, Except Special and Vocational Education

Teach students in public or private schools in one or more subjects at the middle, intermediate, or junior high level, which falls between elementary and senior high school as defined by applicable State laws and regulations. Exclude “Middle School Vocational Education Teachers” (25-2023) and “Special Education Teachers” (25-2041 through 25-2043).

Illustrative Example: Junior High School Teacher

25-2023 Vocational Education Teachers, Middle School

Teach or instruct vocational or occupational subjects at the middle school level. Exclude “Special Education Teachers” (25-2041 through 25-2043).

25-2031 Secondary School Teachers, Except Special and Vocational Education

Instruct students in secondary public or private schools in one or more subjects at the secondary level, such as English, mathematics, or social studies. May be designated according to subject matter specialty, such as typing instructors, commercial teachers, or English teachers. Exclude “Vocational Education Secondary School Teachers” (25-2032) and “Special Education Teachers” (25-2041 through 25-2043).

Illustrative Example: High School Teacher

25-2032 Vocational Education Teachers, Secondary School

Teach or instruct vocational or occupational subjects at the secondary school level.

25-2041 Special Education Teachers, Preschool, Kindergarten, and Elementary School

Teach elementary and preschool school subjects to educationally and physically handicapped students. Include teachers who specialize and work with audibly and visually handicapped students and those who teach basic academic and life processes skills to the mentally impaired.

25-2042 Special Education Teachers, Middle School

Teach middle school subjects to educationally and physically handicapped students. Include teachers who specialize and work with audibly and visually handicapped students and those who teach basic academic and life processes skills to the mentally impaired.

25-2043 Special Education Teachers, Secondary School

Teach secondary school subjects to educationally and physically handicapped students. Include teachers who specialize and work with audibly and visually handicapped students and those who teach basic academic and life processes skills to the mentally impaired.

25-3011 Adult Literacy, Remedial Education, and GED Teachers and Instructors

Teach or instruct out-of-school youths and adults in remedial education classes, preparatory classes for the General Educational Development test, literacy, or English as a Second Language. Teaching may or may not take place in a traditional educational institution.

Illustrative Example: Adult Education Teacher

25-3021 Self-Enrichment Education Teachers

Teach or instruct courses other than those that normally lead to an occupational objective or degree. Courses may include self-improvement, nonvocational, and non-academic subjects. Teaching may or may not take place in a traditional educational institution.

Illustrative Examples: Art Teacher; Flying Teacher; Citizenship Teacher

25-3999 Teachers, Primary, Secondary, and Adult, All Other

Illustrative Examples: Consumer Education Specialist; Lecturer; Private Tutor

25-4010 Archivists, Curators, and Museum Technicians

This broad occupation includes the following three detailed occupations:

25-4011 Archivists: Appraise, edit, and direct safekeeping of permanent records and historically valuable documents. Participate in research activities based on archival materials.

25-4012 Curators: Administer affairs of museum and conduct research programs. Direct instructional, research, and public service activities of institution.

25-4013 Museum Technicians and Conservators: Prepare specimens, such as fossils, skeletal parts, lace, and textiles, for museum collection and exhibits. May restore documents or install, arrange, and exhibit materials.

Illustrative Examples: Docent Coordinator; Art Gallery Director; Museum Director; Museum Registrar

25-4021 Librarians

Administer libraries and perform related library services. Work in a variety of settings, including public libraries, schools, colleges and universities, museums, corporations, government agencies, law firms, non-profit organizations, and healthcare providers. Tasks may include selecting, acquiring, cataloguing, classifying, circulating, and maintaining library materials; and furnishing ref-

erence, bibliographical, and readers' advisory services. May perform in-depth, strategic research, and synthesize, analyze, edit, and filter information. May set up or work with databases and information systems to catalogue and access information.

Illustrative Examples: School Library Media Specialist; Circulation Manager

25-4031 Library Technicians

Assist librarians by helping readers in the use of library catalogs, databases, and indexes to locate books and other materials; and by answering questions that require only brief consultation of standard reference. Compile records; sort and shelf books; remove or repair damaged books; register patrons; check materials in and out of the circulation process. Replace materials in shelving area (stacks) or files. Include bookmobile drivers who operate bookmobiles or light trucks that pull trailers to specific locations on a predetermined schedule and assist with providing services in mobile libraries.

Illustrative Examples: Assistant Librarian; Bookmobile Driver

25-9011 Audio-Visual Collections Specialists

Prepare, plan, and operate audio-visual teaching aids for use in education. May record, catalogue, and file audio-visual materials.

25-9021 Farm and Home Management Advisors

Advise, instruct, and assist individuals and families engaged in agriculture, agricultural-related processes, or home economics activities. Demonstrate procedures and apply research findings to solve problems; instruct and train in product development, sales, and the utilization of machinery and equipment to promote general welfare. Include county agricultural agents, feed and farm management advisers, home economists, and extension service advisers.

Illustrative Examples: Agricultural Extension Agent; Feed Adviser; Home Economic Extension Worker

25-9031 Instructional Coordinators

Develop instructional material, coordinate educational content, and incorporate current technology in specialized fields that provide guidelines to educators and instructors for developing curricula and conducting courses. Include educational consultants and specialists, and instructional material directors.

Illustrative Examples: Curriculum Specialist; Director of Instructional Materials; Educational Consultant

25-9041 Teacher Assistants

Perform duties that are instructional in nature or deliver direct services to students or parents. Serve in a position for which a teacher or another professional has ultimate responsibility for the design and implementation of educational programs and services.

Illustrative Examples: Examination Proctor; Paper Grader; Paraprofessional Teacher Aides

25-9099 Education, Training, and Library Workers, All Other

All education, training, and library workers not listed separately.

**Arts, Design, Entertainment, Sports,
and Media Occupations**

27-1011 Art Directors

Formulate design concepts and presentation approaches, and direct workers engaged in art work, layout design, and copy writing for visual communications media, such as magazines, books, newspapers, and packaging.

27-1013 Fine Artists, Including Painters, Sculptors, and Illustrators

Create original artwork using any of a wide variety of mediums and techniques, such as painting and sculpture.

Illustrative Examples: Art Restorer; Cartoonist; Statue Maker

27-1014 Multi-Media Artists and Animators

Create special effects, animation, or other visual images using film, video, computers, or other electronic tools and media for use in products or creations, such as computer games, movies, music videos, and commercials.

Illustrative Examples: Computer Artist; Computer Graphics Illustrator; Special Effects Specialist

27-1021 Commercial and Industrial Designers

Develop and design manufactured products, such as cars, home appliances, and children's toys. Combine artistic talent with research on product use, marketing, and materials to create the most functional and appealing product design.

Illustrative Examples: Body Stylist; Color Consultant; Jewelry Designer

27-1022 Fashion Designers

Design clothing and accessories. Create original garments or design garments that follow well established fashion trends. May develop the line of color and kinds of materials.

Illustrative Examples: Costume Designer; Custom Furrer; Stylist

27-1023 Floral Designers

Design, cut, and arrange live, dried, or artificial flowers and foliage.

Illustrative Examples: Corsage Maker; Florist; Flower Arranger

27-1024 Graphic Designers

Design or create graphics to meet a client's specific commercial or promotional needs, such as packaging, displays, or logos. May use a variety of mediums to achieve artistic or decorative effects.

Illustrative Examples: Catalogue Illustrator; Graphic Artist; Layout Artist

27-1025 Interior Designers

Plan, design, and furnish interiors of residential, commercial, or industrial buildings. Formulate design, which is practical, aesthetic, and conducive to intended purposes, such as raising productivity, selling merchandise, or improving life style. May specialize in a particular field, style, or phase of interior design. Exclude "Merchandise Displayers and Window Trimmers" (27-1026).

Illustrative Examples: Decorator; Furniture Arranger; Home Lighting Adviser

27-1026 Merchandise Displayers and Window Trimmers

Plan and erect commercial displays, such as those in windows and interiors of retail stores and at trade exhibitions.

Illustrative Examples: Mannequin Decorator; Display Artist; Model Dresser

27-1027 Set and Exhibit Designers

Design special exhibits and movie, television, and theater sets. May study scripts, confer with directors, and conduct research to determine appropriate architectural styles.

Illustrative Examples: Set Decorator; Stage Scenery Designer

27-1099 Art and Design Workers, All Other

Illustrative Examples: Architectural Modeler; Furniture Reproducer; Ivory Carver, Art Appraiser; Calligrapher; Inker and Opaquer, Copyist; Frame Stylist

27-2011 Actors

Play parts in stage, television, radio, video, or motion picture productions for entertainment, information, or in-

struction. Interpret serious or comic role by speech, gesture, and body movement to entertain or inform audience. May dance and sing.

Illustrative Examples: Elocutionist; Extra; Dramatic Reader

27-2012 Producers and Directors

Produce or direct stage, television, radio, video, or motion picture productions for entertainment, information, or instruction. Responsible for creative decisions, such as interpretation of script, choice of guests, set design, sound, special effects, and choreography.

Illustrative Examples: Independent Film Maker; Stage Manager; Program Arranger

27-2021 Athletes and Sports Competitors

Compete in athletic events.

Illustrative Examples: Ball Player; Jockey; Racing Car Driver

27-2022 Coaches and Scouts

Instruct or coach groups or individuals in the fundamentals of sports. Demonstrate techniques and methods of participation. May evaluate athletes' strengths and weaknesses as possible recruits or to improve the athletes' technique to prepare them for competition. Those required to hold teaching degrees should be reported in the appropriate teaching category. Exclude "Athletic Trainers" (29-9091).

Illustrative Examples: Boxing Trainer; Horse Trainer; Baseball Club Manager

27-2023 Umpires, Referees, and Other Sports Officials

Officiate at competitive athletic or sporting events. Detect infractions of rules and decide penalties according to established regulations. Include all sporting officials, referees, and competition judges.

Illustrative Examples: Handicapper; Paddock Judge; Athletic Events Scorer

27-2031 Dancers

Perform dances. May also sing or act.

27-2032 Choreographers

Create and teach dance. May direct and stage presentations.

Illustrative Example: Dance Director

27-2041 Music Directors and Composers

Conduct, direct, plan, and lead instrumental or vocal performances by musical groups, such as orchestras, choirs, and glee clubs. Include arrangers, composers, choral directors, and orchestrators.

Illustrative Examples: Choirmaster; Orchestra Conductor

27-2042 Musicians and Singers

Play one or more musical instruments or entertain by singing songs in recital, in accompaniment, or as a member of an orchestra, band, or other musical group. Musical performers may entertain on-stage, radio, TV, film, video, or record in studios. Exclude "Dancers" (27-2031).

Illustrative Examples: Cantor; Church Organist; Instrumentalist

27-2099 Entertainers and Performers, Sports and Related Workers, All Other

All entertainers and performers, sports and related workers not listed separately.

Illustrative Examples: Circus Performer; Comedian; Magician

27-3010 Announcers

Illustrative Examples: Broadcaster; Disk Jockey; Ringmaster; Train Caller

This broad occupation includes the following two detailed occupations:

27-3011 Radio and Television Announcers: Talk on radio or television. May interview guests, act as master of ceremonies, read news flashes, identify station by giving call letters, or announce song title and artist.

27-3012 Public Address System and Other Announcers

Make announcements over loudspeaker at sporting or other public events. May act as master of ceremonies or disc jockey at weddings, parties, clubs, or other gathering places.

27-3020 News Analysts, Reporters and Correspondents

Illustrative Examples: News Anchor; Newscaster; Commentator; Newscaster; Columnist; Critic; Foreign Correspondent

This broad occupation includes the following two detailed occupations:

27-3021 Broadcast News Analysts: Analyze, interpret, and broadcast news received from various sources.

27-3022 Reporters and Correspondents: Collect and analyze facts about newsworthy events by interview, investigation, or observation. Report and write stories for newspaper, news magazine, radio, or television.

27-3031 Public Relations Specialists

Engage in promoting or creating good will for individuals, groups, or organizations by writing or selecting favorable publicity material and releasing it through various communications media. May prepare and arrange displays, and make speeches.

Illustrative Examples: Lobbyist; Press Secretary; Publicist

27-3041 Editors

Perform variety of editorial duties, such as laying out, indexing, and revising content of written materials, in preparation for final publication. Include technical editors.

Illustrative Examples: Copy Editor; Censor; Reviewer

27-3042 Technical Writers

Write technical materials, such as equipment manuals, appendices, or operating and maintenance instructions. May assist in layout work.

Illustrative Examples: Documentation Writer; Assembly Instructions Writer; Specifications Writer

27-3043 Writers and Authors

Originate and prepare written material, such as scripts, stories, advertisements, and other material. Exclude "Public Relations Specialists" (27-3031) and "Technical Writers" (27-3042).

Illustrative Examples: Crossword Puzzle Maker; Copy Writer; Playwright

27-3091 Interpreters and Translators

Translate or interpret written, oral, or sign language text into another language for others.

Illustrative Examples: Braille Translator; Deaf Interpreter; Language Translator

27-3099 Media and Communication Workers, All Other

All media and communication workers not listed separately.

Illustrative Examples: Graphologist; Stage Technician

27-4011 Audio and Video Equipment Technicians

Set up or set up and operate audio and video equipment including microphones, sound speakers, video screens, projectors, video monitors, recording equipment, connecting wires and cables, sound and mixing boards, and related electronic equipment for concerts, sports events, meetings and conventions, presentations, and news conferences. May also set up and operate associated spotlights and other custom lighting systems. Exclude "Sound Engineering Technicians" (27-4014).

Illustrative Examples: Video Control Operator; Audio Visual Production Specialist

27-4012 Broadcast Technicians

Set up, operate, and maintain the electronic equipment used to transmit radio and television programs. Control audio equipment to regulate volume level and quality of sound during radio and television broadcasts. Operate radio transmitter to broadcast radio and television programs.

Illustrative Examples: Control Room Technician; Audio Engineer

27-4013 Radio Operators

Receive and transmit communications using radiotelegraph or radiotelephone equipment in accordance with government regulations. May repair equipment.

Illustrative Example: Radio Officer

27-4014 Sound Engineering Technicians

Operate machines and equipment to record, synchronize, mix, or reproduce music, voices, or sound effects in sporting arenas, theater productions, recording studios, or movie and video productions.

Illustrative Examples: Film Recordist; Sound Editor; Sound Effects Person

27-4021 Photographers

Photograph persons, subjects, merchandise, or other commercial products. May develop negatives and produce finished prints. Include scientific photographers, aerial photographers, and photojournalists.

Illustrative Examples: Camera Operator; Photojournalist

27-4031 Camera Operators, Television, Video, and Motion Picture

Operate television, video, or motion picture camera to photograph images or scenes for various purposes, such as TV broadcasts, advertising, video production, or motion pictures.

Illustrative Example: Cinematographer

27-4032 Film and Video Editors

Edit motion picture soundtracks, film, and video.

Illustrative Examples: Cue Selector; Video Tape Duplicator

27-4099 Media and Communication Equipment Workers, All Other

All media and communication equipment workers not listed separately.

Illustrative Examples: Radar Operator; Light Technician

Healthcare Practitioners and Technical Occupations

29-1011 Chiropractors

Adjust spinal column and other articulations of the body to correct abnormalities of the human body believed to be caused by interference with the nervous system. Examine patient to determine nature and extent of disorder. Manipulate spine or other involved area. May utilize supplementary measures, such as exercise, rest, water, light, heat, and nutritional therapy.

29-1020 Dentists

This broad occupation includes the following five detailed occupations:

29-1021 Dentists, General

Diagnose and treat diseases, injuries, and malformations of teeth and gums and related oral structures. May treat diseases of nerve, pulp, and other dental tissues affecting vitality of teeth. Exclude "Prosthodontists" (29-1024), "Orthodontists" (29-1023), "Oral and Maxillofacial Surgeons" (29-1022) and "Dentists, all other specialists" (29-1029).

29-1022 Oral and Maxillofacial Surgeons

Perform surgery on mouth, jaws, and related head and neck structure to execute difficult and multiple extractions of teeth, to remove tumors and other abnormal growths, to correct abnormal jaw relations by mandibular or maxillary revision, to prepare mouth for insertion of dental prosthesis, or to treat fractured jaws.

Illustrative Example: Dental Surgeon

29-1023 Orthodontists

Examine, diagnose, and treat dental malocclusions and oral cavity anomalies. Design and fabricate appliances to realign teeth and jaws to produce and maintain normal function and to improve appearance.

29-1024 Prosthodontists

Construct oral prostheses to replace missing teeth and other oral structures to correct natural and acquired deformation of mouth and jaws, to restore and maintain oral function, such as chewing and speaking, and to improve appearance.

29-1029 Dentists, All Other Specialists

All dentists not listed separately.

Illustrative Examples: Endodontist; Periodontist; Oral Pathologist

29-1031 Dietitians and Nutritionists

Plan and conduct food service or nutritional programs to assist in the promotion of health and control of disease. May supervise activities of a department providing quantity food services, counsel individuals, or conduct nutritional research.

Illustrative Examples: Public Health Dietitian; Nutrition Director; Research Dietitian

29-1032 Dietitians and Nutritionists, Non R&D (SIC 822 Only)

29-1033 Dietitians and Nutritionists, R&D (SIC 822 Only)

29-1041 Optometrists

Diagnose, manage, and treat conditions and diseases of the human eye and visual system. Examine eyes and visual system, diagnose problems or impairments, prescribe corrective lenses, and provide treatment. May prescribe therapeutic drugs to treat specific eye conditions.

Illustrative Example: Doctor of Optometry

29-1051 Pharmacists

Dispense drugs prescribed by physicians and other health practitioners and provide information to patients about medications and their use. May advise physicians and other health practitioners on the selection, dosage, interactions, and side effects of medications.

Illustrative Examples: Apothecary; Druggist; Industrial Pharmacist

29-1061 Anesthesiologists

Administer anesthetics during surgery or other medical procedures.

29-1062 Family and General Practitioners

Diagnose, treat, and help prevent diseases and injuries that commonly occur in the general population.

29-1063 Internists, General

Diagnose and provide non-surgical treatment of diseases and injuries of internal organ systems. Provide care mainly for adults who have a wide range of problems associated with the internal organs. Include subspecialists, such as cardiologists and gastroenterologists, with "All Other Physicians" (29-1069).

29-1064 Obstetricians and Gynecologists

Diagnose, treat, and help prevent diseases of women, especially those affecting the reproductive system and the process of childbirth.

29-1065 Pediatricians, General

Diagnose, treat, and help prevent children's diseases and injuries.

29-1066 Psychiatrists

Diagnose, treat, and help prevent disorders of the mind.

Illustrative Examples: Psychoanalyst; Neuropsychiatrist

29-1067 Surgeons

Treat diseases, injuries, and deformities by invasive methods, such as manual manipulation or by using instruments and appliances.

Illustrative Examples: Orthopedic Surgeon; Cardiovascular Surgeon; Plastic Surgeon

29-1069 Physicians and Surgeons, All Other

All physicians and surgeons not listed separately.

Illustrative Examples: Cardiologist; Dermatologist; Ophthalmologist

29-1071 Physician Assistants

Provide healthcare services typically performed by a physician, under the supervision of a physician. Conduct complete physicals, provide treatment, and counsel patients. May, in some cases, prescribe medication. Must graduate from an accredited educational program for physician assistants. Exclude "Emergency Medical Technicians and Paramedics" (29-2041), "Medical Assistants" (31-9092), and "Registered Nurses" (29-1111).

Illustrative Example: Anesthesiologist Assistant

29-1081 Podiatrists

Diagnose and treat diseases and deformities of the human foot.

Illustrative Examples: Podiatric Surgeon; Foot Orthopedist; Pododermatologist

29-1111 Registered Nurses

Assess patient health problems and needs, develop and implement nursing care plans, and maintain medical records. Administer nursing care to ill, injured, convalescent, or disabled patients. May advise patients on health maintenance and disease prevention or provide case management. Licensing or registration required. Include advance practice nurses such as: nurse practitioners, clinical nurse specialists, certified nurse midwives, and certified registered nurse anesthetists. Advanced practice nursing is practiced by RNs who have specialized formal, post-basic education and who function in highly autonomous and specialized roles.

Illustrative Examples: Nursing Supervisor; Nurse Midwife; Nurse Practitioner

29-1114 Registered Nurses, Non R&D (SIC 822 Only)

29-1115 Registered Nurses, R&D (SIC 822 Only)

29-1121 Audiologists

Assess and treat persons with hearing and related disorders. May fit hearing aids and provide auditory training. May perform research related to hearing problems.

Illustrative Example: Hearing Therapist

29-1122 Occupational Therapists

Assess, plan, organize, and participate in rehabilitative programs that help restore vocational, homemaking, and daily living skills, as well as general independence, to disabled persons.

29-1123 Physical Therapists

Assess, plan, organize, and participate in rehabilitative programs that improve mobility, relieve pain, increase strength, and decrease or prevent deformity of patients suffering from disease or injury.

Illustrative Examples: Physiotherapist; Pulmonary Physical Therapist

29-1124 Radiation Therapists

Provide radiation therapy to patients as prescribed by a radiologist according to established practices and standards. Duties may include reviewing prescription and diagnosis; acting as liaison with physician and supportive care personnel; preparing equipment, such as immobilization, treatment, and protection devices; and maintaining records, reports, and files. May assist in dosimetry procedures and tumor localization.

Illustrative Examples: Dosimetrist; Radiation Therapy Technologist

29-1125 Recreational Therapists

Plan, direct, or coordinate medically approved recreation programs for patients in hospitals, nursing homes, or other institutions. Activities include sports, trips, dramatics, social activities, and arts and crafts. May assess a patient condition and recommend appropriate recreational activity.

Illustrative Example: Therapeutic Recreation Specialist

29-1126 Respiratory Therapists

Assess, treat, and care for patients with breathing disorders. Assume primary responsibility for all respiratory care modalities, including the supervision of respiratory therapy technicians. Initiate and conduct therapeutic procedures; maintain patient records; and select, assemble, check, and operate equipment.

Illustrative Examples: Inhalation Therapist; Respiratory Care Practitioner; Oxygen Therapist

29-1127 Speech-Language Pathologists

Assess and treat persons with speech, language, voice, and fluency disorders. May select alternative communication systems and teach their use. May perform research related to speech and language problems.

Illustrative Examples: Oral Therapist; Speech Clinician; Speech Therapist

29-1131 Veterinarians

Diagnose and treat diseases and dysfunctions of animals. May engage in a particular function, such as research and development, consultation, administration, technical writing, sale or production of commercial products, or rendering of technical services to commercial firms or other organizations. Include veterinarians who inspect livestock.

Illustrative Examples: Animal Pathologist; Animal Surgeon; Veterinary Bacteriologist

29-1151 Audiologists, Non R&D (SIC 822 Only)

29-1152 Audiologists, R&D (SIC 822 Only)

29-1153 Occupational Therapists, Non R&D (SIC 822 Only)

29-1154 Occupational Therapists, R&D (SIC 822 Only)

29-1155 Speech-Language Pathologists, Non R&D (SIC 822 Only)

29-1156 Speech-Language Pathologists, R&D (SIC 822 Only)

29-1199 Health Diagnosing and Treating Practitioners, All Other

All health diagnosing and treating practitioners not listed separately.

Illustrative Examples: Physicians, not specified; Cardiologist; Ophthalmologist; Dermatologist; Therapists, not specified; Corrective Therapist; Homeopathic Doctor; Acupuncturist; Hypnotherapist, Corrective and Manual Arts Therapist; Hydrotherapist; Music Therapist

29-2011 Medical and Clinical Laboratory Technologists

Perform complex medical laboratory tests for diagnosis, treatment, and prevention of disease. May train or supervise staff.

Illustrative Examples: Blood Bank Technologist; Cytotechnologist; Immunohematologist

29-2012 Medical and Clinical Laboratory Technicians

Perform routine medical laboratory tests for the diagnosis, treatment, and prevention of disease. May work under the supervision of a medical technologist.

Illustrative Examples: Blood Bank Technician; Cytotechnician; Serology Technician

29-2021 Dental Hygienists

Clean teeth and examine oral areas, head, and neck for signs of oral disease. May educate patients on oral hygiene, take and develop X-rays, or apply fluoride or sealants.

Illustrative Example: Oral Hygienist

29-2031 Cardiovascular Technologists and Technicians

Conduct tests on pulmonary or cardiovascular systems of patients for diagnostic purposes. May conduct or assist in electrocardiograms, cardiac catheterizations, pulmonary-functions, lung capacity, and similar tests. Include vascular technologists.

Illustrative Examples: Cardiographer; Cardiopulmonary Technologist; E.K.G. Technician

29-2032 Diagnostic Medical Sonographers

Produce ultrasonic recordings of internal organs for use by physicians.

Illustrative Examples: Ultrasonic Tester; Ultrasound Technologist

29-2033 Nuclear Medicine Technologists

Prepare, administer, and measure radioactive isotopes in therapeutic, diagnostic, and tracer studies utilizing a variety of radioisotope equipment. Prepare stock solutions of radioactive materials and calculate doses to be administered by radiologists. Subject patients to radiation. Execute blood volume, red cell survival, and fat absorption studies following standard laboratory techniques.

Illustrative Example: Radioisotope Technician

29-2034 Radiologic Technologists and Technicians

Take X-rays and CAT scans or administer nonradioactive materials into patient's blood stream for diagnostic purposes. Include technologists who specialize in other modalities, such as computed tomography and magnetic resonance. Include workers whose primary duties are to demonstrate portions of the human body on X-ray film or fluoroscopic screen.

Illustrative Examples: CAT Scan Operator; Skiagrapher; X-Ray Technician

29-2041 Emergency Medical Technicians and Paramedics

Assess injuries, administer emergency medical care, and extricate trapped individuals. Transport injured or sick persons to medical facilities.

Illustrative Example: E.M.T.

29-2051 Dietetic Technicians

Assist dietitians in the provision of food service and nutritional programs. Under the supervision of dietitians, may plan and produce meals based on established guidelines, teach principles of food and nutrition, or counsel individuals.

29-2052 Pharmacy Technicians

Prepare medications under the direction of a pharmacist. May measure, mix, count out, label, and record amounts and dosages of medications.

29-2053 Psychiatric Technicians

Care for mentally impaired or emotionally disturbed individuals, following physician instructions and hospital procedures. Monitor patients' physical and emotional well-being and report to medical staff. May participate in rehabilitation and treatment programs, help with personal hygiene, and administer oral medications and hypodermic injections.

Illustrative Example: Mental Health Technician

29-2054 Respiratory Therapy Technicians

Provide specific, well-defined respiratory care procedures under the direction of respiratory therapists and physicians.

Illustrative Example: Oxygen Therapy Technician

29-2055 Surgical Technologists

Assist in operations, under the supervision of surgeons, registered nurses, or other surgical personnel. May help set up operating room, prepare and transport patients for surgery, adjust lights and equipment, pass instruments and other supplies to surgeons and surgeon's assistants, hold retractors, cut sutures, and help count sponges, needles, supplies, and instruments.

Illustrative Examples: Operating Room Technician; Scrub Technician; Surgical Orderly

29-2056 Veterinary Technologists and Technicians

Perform medical tests in a laboratory environment for use in the treatment and diagnosis of diseases in animals. Prepare vaccines and serums for prevention of diseases. Prepare tissue samples, take blood samples, and execute laboratory tests, such as urinalysis and blood counts. Clean and sterilize instruments and materials and maintain equipment and machines.

Illustrative Examples: Animal Technician; Veterinary X-ray Operator

29-2061 Licensed Practical and Licensed Vocational Nurses

Care for ill, injured, convalescent, or disabled persons in hospitals, nursing homes, clinics, private homes, group homes, and similar institutions. May work under the supervision of a registered nurse. Licensing required.

Illustrative Example: Licensed Attendant

29-2071 Medical Records and Health Information Technicians

Compile, process, and maintain medical records of hospital and clinic patients in a manner consistent with medical, administrative, ethical, legal, and regulatory requirements of the health care system. Process, maintain, compile, and report patient information for health requirements and standards.

Illustrative Examples: Disability Rater; Medical Records Specialist; Medical Library Historian

29-2081 Opticians, Dispensing

Design, measure, fit, and adapt lenses and frames for client according to written optical prescription or specification. Assist client with selecting frames. Measure customer for size of eyeglasses and coordinate frames with facial and eye measurements and optical prescription. Prepare work order for optical laboratory containing instructions for grinding and mounting lenses in frames. Verify exactness of finished lens spectacles. Adjust frame and lens position to fit client. May shape or reshape frames. Include contact lens opticians.

Illustrative Examples: Contact Lens Fitter; Eyeglass Fitter

29-2091 Orthotists and Prosthetists

Assist patients with disabling conditions of limbs and spine or with partial or total absence of limb by fitting and preparing orthopedic braces or prostheses.

Illustrative Examples: Artificial Limb Fitter; Orthopedic Mechanic

29-9010 Occupational Health and Safety Specialists and Technicians

Illustrative Examples: Health Inspector; Industrial Hygienist Health Sanitarian; Mine Examiner
This broad occupation includes the following two detailed occupations:

29-9011 Occupational Health and Safety Specialists:

Review, evaluate, and analyze work environments and

design programs and procedures to control, eliminate, and prevent disease or injury caused by chemical, physical, and biological agents or ergonomic factors. May conduct inspections and enforce adherence to laws and regulations governing the health and safety of individuals. May be employed in the public or private sector. Include environmental protection officers.

29-9012 Occupational Health and Safety Technicians:

Collect data on work environments for analysis by occupational health and safety specialists. Implement and conduct evaluation of programs designed to limit chemical, physical, biological, and ergonomic risks to workers.

29-9091 Athletic Trainers

Evaluate, advise, and treat athletes to assist recovery from injury, avoid injury, or maintain peak physical fitness.

29-9099 Healthcare Practitioners and Technical Workers, All Other

All healthcare practitioners and technical workers not listed separately.

29-9199 Health Professionals and Technicians, All Other

Illustrative Examples: Dialysis Technician; Encephalographer; Hearing Aid Specialist

Healthcare Support Occupations

31-1011 Home Health Aides

Provide routine, personal healthcare, such as bathing, dressing, or grooming, to elderly, convalescent, or disabled persons in the home of patients or in a residential care facility.

Illustrative Example: Home Attendant

31-1012 Nursing Aides, Orderlies, and Attendants

Provide basic patient care under direction of nursing staff. Perform duties, such as feed, bathe, dress, groom, or move patients, or change linens. Exclude "Home Health Aides" (31-1011) and "Psychiatric Aides" (31-1013).

Illustrative Examples: Certified Nursing Assistant; Hospital Aide; Infirmary Attendant

31-1013 Psychiatric Aides

Assist mentally impaired or emotionally disturbed patients, working under direction of nursing and medical staff.

Illustrative Examples: Charge Attendant; Psychiatric Orderly

31-2011 Occupational Therapist Assistants

Assist occupational therapists in providing occupational therapy treatments and procedures. May, in accordance with State laws, assist in development of treatment plans, carry out routine functions, direct activity programs, and document the progress of treatments. Generally requires formal training.

Illustrative Example: Occupational Therapy Technician

31-2012 Occupational Therapist Aides

Under close supervision of an occupational therapist or occupational therapy assistant, perform only delegated, selected, or routine tasks in specific situations. These duties include preparing patient and treatment room.

31-2021 Physical Therapist Assistants

Assist physical therapists in providing physical therapy treatments and procedures. May, in accordance with State laws, assist in the development of treatment plans, carry out routine functions, document the progress of treatment, and modify specific treatments in accordance with patient status and within the scope of treatment plans established by a physical therapist. Generally requires formal training.

Illustrative Example: Corrective Therapy Assistant

31-2022 Physical Therapist Aides

Under close supervision of a physical therapist or physical therapy assistant, perform only delegated, selected, or routine tasks in specific situations. These duties include preparing the patient and the treatment area.

Illustrative Example: Physiotherapy Aide

31-9011 Massage Therapists

Massage customers for hygienic or remedial purposes.

Illustrative Examples: Masseuse; Masseuse; Rubber

31-9091 Dental Assistants

Assist dentist, set up patient and equipment, and keep records.

31-9092 Medical Assistants

Perform administrative and certain clinical duties under the direction of physician. Administrative duties may include scheduling appointments, maintaining medical records, billing, and coding for insurance purposes. Clinical duties may include taking and recording vital signs and medical histories, preparing patients for examination, drawing blood, and administering medications as directed by physician. Exclude "Physician Assistants" (29-1071).

Illustrative Examples: Morgue Attendant; Ophthalmic Aide; Physicians Aide

31-9093 Medical Equipment Preparers

Prepare, sterilize, install, or clean laboratory or healthcare equipment. May perform routine laboratory tasks and operate or inspect equipment.

Illustrative Examples: Bandage Maker; Hot Packer; Sterilizer

31-9094 Medical Transcriptionists

Use transcribing machines with headset and foot pedal to listen to recordings by physicians and other healthcare professionals dictating a variety of medical reports, such as emergency room visits, diagnostic imaging studies, operations, chart reviews, and final summaries. Transcribe dictated reports and translate medical jargon and abbreviations into their expanded forms. Edit as necessary and return reports in either printed or electronic form to the dictator for review and signature, or correction.

Illustrative Example: Medical Stenographer

31-9095 Pharmacy Aides

Record drugs delivered to the pharmacy, store incoming merchandise, and inform the supervisor of stock needs. May operate cash register and accept prescriptions for filling.

Illustrative Examples: Dispensary Attendant; Prescription Clerk

31-9096 Veterinary Assistants and Laboratory Animal Caretakers

Feed, water, and examine pets and other nonfarm animals for signs of illness, disease, or injury in laboratories and animal hospitals and clinics. Clean and disinfect cages and work areas, and sterilize laboratory and surgical equipment. May provide routine post-operative care, administer medication orally or topically, or prepare samples for laboratory examination under the supervision of veterinary or laboratory animal technologists or technicians, veterinarians, or scientists. Exclude "Non-farm Animal Caretakers" (39-2021).

31-9099 Healthcare Support Workers, All Other

All healthcare support workers not listed separately.

Illustrative Examples: Phlebotomist; Reducing Salon Attendant

Protective Service Occupations**33-1011 First-Line Supervisors/Managers of Correctional Officers**

Supervise and coordinate activities of correctional officers and jailers.

Illustrative Examples: Prison Guard Supervisor; Prison Warden

33-1012 First-Line Supervisors/Managers of Police and Detectives

Supervise and coordinate activities of members of police force.

Illustrative Examples: Chief of Police; Precinct Captain

33-1021 First-Line Supervisors/Managers of Fire Fighting and Prevention Workers

Supervise and coordinate activities of workers engaged in fire fighting and fire prevention and control.

Illustrative Examples: Fire Captain; Fire Chief; Fire Marshal

33-1099 First-Line Supervisors/Managers, Protective Service Workers, All Other

All protective service supervisors not listed separately above.

Illustrative Examples: Security Director; Supervisor Animal Cruelty Investigation; Supervisor Plant Protection

33-2011 Fire Fighters

Control and extinguish fires or respond to emergency situations where life, property, or the environment is at risk. Duties may include fire prevention, emergency medical service, hazardous material response, search and rescue, and disaster management.

Illustrative Examples: Explosive Ordnance Disposal Technician; Fireboat Operator; Smoke Jumper

33-2021 Fire Inspectors and Investigators

Inspect buildings to detect fire hazards and enforce local ordinances and State laws. Investigate and gather facts to determine cause of fires and explosions.

Illustrative Example: Arson Investigator

33-2022 Forest Fire Inspectors and Prevention Specialists

Enforce fire regulations and inspect for forest fire hazards. Report forest fires and weather conditions.

Illustrative Examples: Forest Fire Control Officer; District Ranger; Fire Ranger

33-3011 Bailiffs

Maintain order in courts of law.

Illustrative Examples: Court Officer; Sergeant at Arms

33-3012 Correctional Officers and Jailers

Guard inmates in penal or rehabilitative institution in accordance with established regulations and procedures. May guard prisoners in transit between jail, courtroom, prison, or other point. Include deputy sheriffs and police who spend the majority of their time guarding prisoners in correctional institutions.

Illustrative Examples: Convict Guard; Custodial Officer; Prison Guard

33-3021 Detectives and Criminal Investigators

Conduct investigations related to suspected violations of Federal, State, or local laws to prevent or solve crimes. Exclude "Private Detectives and Investigators" (33-9021).

Illustrative Examples: Police Inspector; Deputy United States Marshal; Narcotics Agent

33-3031 Fish and Game Warden

Patrol assigned area to prevent fish and game law violations. Investigate reports of damage to crops or property by wildlife. Compile biological data.

Illustrative Examples: State Game Protector; Wildlife Control Agent; Wildlife Officer

33-3041 Parking Enforcement Workers

Patrol assigned area, such as public parking lot or section of city to issue tickets to overtime parking violators and illegally parked vehicles.

Illustrative Examples: Parking Enforcement Officer; Parking Meter Checker

33-3051 Police and Sheriff's Patrol Officers

Maintain order, enforce laws and ordinances, and protect life and property in an assigned patrol district. Perform combination of following duties: patrol a specific area on foot or in a vehicle; direct traffic; issue traffic summonses; investigate accidents; apprehend and arrest suspects, or serve legal processes of courts.

Illustrative Examples: Border Guard; Campus Police; City Constable

33-3052 Transit and Railroad Police

Protect and police railroad and transit property, employees, or passengers.

Illustrative Examples: Railroad Detective; Track Patrol

33-9011 Animal Control Workers

Handle animals for the purpose of investigations of mistreatment, or control of abandoned, dangerous, or unwanted animals.

Illustrative Examples: Animal Warden; Dog Catcher; Humane Officer

33-9021 Private Detectives and Investigators

Detect occurrences of unlawful acts or infractions of rules in private establishment, or seek, examine, and compile information for client.

Illustrative Example: House Detective

33-9031 Gaming Surveillance Officers and Gaming Investigators

Act as oversight and security agent for management and customers. Observe casino or casino hotel operation for irregular activities such as cheating or theft by either employees or patrons. May utilize one-way mirrors above the casino floor, cashier's cage, and from desk. Use of audio/video equipment is also common to observe operation of the business. Usually required to provide verbal and written reports of all violations and suspicious behavior to supervisor.

Illustrative Examples: Casino Surveillance Officer; Casino Investigator

33-9032 Security Guards

Guard, patrol, or monitor premises to prevent theft, violence, or infractions of rules.

Illustrative Examples: Bodyguard; Bouncer; Watchguard

33-9091 Crossing Guards

Guide or control vehicular or pedestrian traffic at such places as streets, schools, railroad crossings, or construction sites.

Illustrative Examples: Flagger; Gate Operator; School Patrol

33-9092 Lifeguards, Ski Patrol, and Other Recreational Protective Service Workers

Monitor recreational areas, such as pools, or ski slopes to provide assistance and protection to participants.

33-9099 Protective Service Workers, All Other

All protective service workers not listed separately.

Illustrative Examples: Park Ranger; Surveillance-System Monitor; Life Guard; Ski Patrol

Food Preparation and Serving Related Occupations

35-1011 Chefs and Head Cooks

Direct the preparation, seasoning, and cooking of salads, soups, fish, meats, vegetables, desserts, or other foods. May plan and price menu items, order supplies, and keep records and accounts. May participate in cooking.

Illustrative Examples: Executive Chef; Pastry Chef; Sous Chef

35-1012 First-Line Supervisors/Managers of Food Preparation and Serving Workers

Supervise workers engaged in preparing and serving food.

Illustrative Examples: Cafeteria Manager; Caterer; Bar Manager

35-2011 Cooks, Fast Food

Prepare and cook food in a fast food restaurant with a limited menu. Duties of the cooks are limited to preparation of a few basic items and normally involve operating large-volume single-purpose cooking equipment.

Illustrative Examples: Fry Cook; Pizza Maker

35-2012 Cooks, Institution and Cafeteria

Prepare and cook large quantities of food for institutions, such as schools, hospitals, or cafeterias.

Illustrative Examples: Camp Cook; Mess Cook; Galley Cook

35-2013 Cooks, Private Household

Prepare meals in private homes.

35-2014 Cooks, Restaurant

Prepare, season, and cook soups, meats, vegetables, desserts, or other foodstuffs in restaurants. May order supplies, keep records and accounts, price items on menu, or plan menu.

Illustrative Examples: Broiler Cook; Specialty Foreign Food Cook; Garde-manger

35-2015 Cooks, Short Order

Prepare and cook to order a variety of foods that require only a short preparation time. May take orders from customers and serve patrons at counters or tables. Exclude "Fast Food Cooks" (35-2011).

Illustrative Examples: Barbecue Cook; Griddle Cook

35-2021 Food Preparation Workers

Perform a variety of food preparation duties other than cooking, such as preparing cold foods and shellfish, slicing meat, and brewing coffee or tea.

Illustrative Examples: Coffee Maker; Kitchen Helper; Sandwich Maker

35-3011 Bartenders

Mix and serve drinks to patrons, directly or through waitstaff.

Illustrative Examples: Barkeeper; Taproom Attendant

35-3021 Combined Food Preparation and Serving Workers, Including Fast Food

Perform duties, which combine both food preparation and food service.

Illustrative Examples: Caterers Aide; Deli Clerk; Mess Attendant

35-3022 Counter Attendants, Cafeteria, Food Concession, and Coffee Shop

Serve food to diners at counter or from a steam table.

Include counter attendants who also wait tables with "Waiters and Waitresses" (35-3031).

Illustrative Examples: Canteen Operator; Snack Bar Attendant Hot Dog Attendant

35-3031 Waiters and Waitresses

Take orders and serve food and beverages to patrons at tables in dining establishment. Exclude "Counter Attendants, Cafeteria, Food Concession, and Coffee Shop" (35-3022).

Illustrative Examples: Cocktail Waiter; Wine Steward; Head Waitress

35-3041 Food Servers, Nonrestaurant

Serve food to patrons outside of a restaurant environment, such as in hotels, hospital rooms, or cars. Exclude "Door-to-Door Sales Workers, News and Street Vendors, and Related Workers" (41-9091) and "Counter Attendants, Cafeteria, Food Concession, and Coffee Shop" (35-3022).

Illustrative Examples: Curb Attendant; Hospital Tray-Service Worker; Room Service Clerk

35-9011 Dining Room and Cafeteria Attendants and Bartender Helpers

Facilitate food service. Clean tables, carry dirty dishes, replace soiled table linens; set tables; replenish supply of clean linens, silverware, glassware, and dishes; supply service bar with food, and serve water, butter, and coffee to patrons.

Illustrative Examples: Busser; Lunchroom Attendant; Tray Setter

35-9021 Dishwashers

Clean dishes, kitchen, food preparation equipment, or utensils.

Illustrative Examples: Kitchen Cleaner; Glass Washer; Pot Washer

35-9031 Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop

Welcome patrons, seat them at tables or in lounge, and help ensure quality of facilities and service.

Illustrative Examples: Maitre D'; Dining Room Host;

35-9099 Food Preparation and Serving Related Workers, All Other

All food preparation and serving related workers not listed separately.

Illustrative Examples: Vending Machine Attendant; Cafeteria Line Runner Cooks, not specified

Building and Grounds Cleaning and Maintenance Occupations

37-1011 First-Line Supervisors/Managers of Housekeeping and Janitorial Worker

Supervise work activities of cleaning personnel in hotels, hospitals, offices, and other establishments.

Illustrative Examples: Building Superintendent; Household Manager; Housekeeping Supervisor

37-1012 First-Line Supervisors/Managers of Landscaping, Lawn Service, and Groundskeeping Workers

Plan, organize, direct, or coordinate activities of workers engaged in landscaping or groundskeeping activities, such as planting and maintaining ornamental trees, shrubs, flowers, and lawns, and applying fertilizers, pesticides, and other chemicals, according to contract specifications. May also coordinate activities of workers engaged in terracing hillsides, building retaining walls, constructing pathways, installing patios, and similar activities in following a landscape design plan. Work may involve reviewing contracts to ascertain service, machine, and work force requirements; answering inquiries from potential customers regarding methods, material, and price ranges; and preparing estimates according to labor, material, and machine costs.

Illustrative Examples: Landscape Contractor; Golf Course Superintendent; Nursery Supervisor

37-2011 Janitors and Cleaners, Except Maids and Housekeeping Cleaners

Keep buildings in clean and orderly condition. Perform heavy cleaning duties, such as cleaning floors, shampooing rugs, washing walls and glass, and removing rubbish. Duties may include tending furnace and boiler, performing routine maintenance activities, notifying management of need for repairs, and cleaning snow or debris from sidewalk.

Illustrative Examples: Floor Cleaner; Building Custodian; Window Washer

37-2012 Maids and Housekeeping Cleaners

Perform any combination of light cleaning duties to maintain private households or commercial establishments, such as hotels, restaurants, and hospitals, in a clean and orderly manner. Duties include making beds, replenishing linens, cleaning rooms and halls, and vacuuming.

Illustrative Examples: Bed Maker; Chamber Maid; Housekeeper

37-2021 Pest Control Workers

Spray or release chemical solutions or toxic gases and set traps to kill pests and vermin, such as mice, termites, and roaches, that infest buildings and surrounding areas.

Illustrative Examples: Exterminator; Exterminator Helper; Fumigator

37-3011 Landscaping and Groundskeeping Workers

Landscape or maintain grounds of property using hand or power tools or equipment. Workers typically perform a variety of tasks, which may include any combination of the following: sod laying, mowing, trimming, planting, watering, fertilizing, digging, raking, sprinkler installation, and installation of mortarless segmental concrete masonry wall units. Exclude "Farmworkers and Laborers, Crop, Nursery, and Greenhouse" (45-2092).

Illustrative Examples: Landscape Gardener; Outdoor Sprinkler Installer; Greenskeeper

37-3012 Pesticide Handlers, Sprayers, and Applicators, Vegetation

Mix or apply pesticides, herbicides, fungicides, or insecticides through sprays, dusts, vapors, soil incorporation or chemical application on trees, shrubs, lawns, or botanical crops. Usually requires specific training and State or Federal certification. Exclude "Commercial Pilots" (53-2012) who operate aviation equipment to dust or spray crops.

Illustrative Examples: Fruit Sprayer; Weed Controller

37-3013 Tree Trimmers and Pruners

Cut away dead or excess branches from trees or shrubs to maintain right-of-way for roads, sidewalks, or utilities, or to improve appearance, health, and value of tree. Prune or treat trees or shrubs using handsaws, pruning hooks, sheers, and clippers. May use truck-mounted lifts and power pruners. May fill cavities in trees to promote healing and prevent deterioration. Exclude workers who primarily perform duties of "Pesticide Handlers, Sprayers, and Applicators, Vegetation" (37-3012) and "Landscaping and Groundskeeping Workers" (37-3011).

Illustrative Examples: Tree Doctor; Grape Vine Pruner

37-9099 Building and Grounds Cleaning and Maintenance Workers, All Other

All grounds maintenance workers not listed separately.

Illustrative Examples: Chimney Sweep; Air Purifier Servicer

Personal Care and Service Occupations

39-1011 Gaming Supervisors

Supervise gaming operations and personnel in an assigned area. Circulate among tables and observe operations. Ensure that stations and games are covered for each shift. May explain and interpret operating rules of house to patrons. May plan and organize activities and create friendly atmosphere for guests in hotels/casinos. May adjust service complaints. Exclude "Slot Key Persons" (39-1012).

Illustrative Examples: Executive Casino Host; Table Games Supervisor; Pit Boss

39-1012 Slot Key Persons

Coordinate/supervise functions of slot department workers to provide service to patrons. Handle and settle complaints of players. Verify and payoff jackpots. Reset slot machines after payoffs. Make minor repairs or adjustments to slot machines. Recommend removal of slot machines for repair. Report hazards and enforces safety rules.

Illustrative Example: Slot Floor Person

39-1021 First-Line Supervisors/Managers of Personal Service Workers

Supervise and coordinate activities of personal service workers, such as supervisors of flight attendants, hairdressers, or caddies.

Illustrative Examples: Caddymaster; Barber Shop Manager; Health Club Manager

39-2011 Animal Trainers

Train animals for riding, harness, security, performance, or obedience, or assisting persons with disabilities. Accustom animals to human voice and contact; and condition animals to respond to commands. Train animals according to prescribed standards for show or competition. May train animals to carry pack loads or work as part of pack team.

Illustrative Examples: Dog Trainer; Horse Breaker; Lion Trainer

39-2021 Nonfarm Animal Caretakers

Feed, water, groom, bathe, exercise, or otherwise care for pets and other nonfarm animals, such as dogs, cats, ornamental fish or birds, zoo animals, and mice. Work in settings such as kennels, animal shelters, zoos, circuses, and aquariums. May keep records of feedings, treatments, and animals received or discharged. May

clean, disinfect, and repair cages, pens, or fish tanks. Exclude "Veterinary Assistants and Laboratory Animal Caretakers" (31-9096).

Illustrative Examples: Dog Groomer; Kennel Worker; Stable Attendant

39-3011 Gaming Dealers

Operate table games. Stand or sit behind table and operate games of chance by dispensing the appropriate number of cards or blocks to players, or operating other gaming equipment. Compare the house's hand against players' hands and payoff or collect players' money or chips.

Illustrative Examples: Blackjack Dealers; Roulette Dealers; Craps Dealers

39-3012 Gaming and Sports Book Writers and Runners

Assist in the operation of games such as keno and bingo. Scan winning tickets presented by patrons, calculate amount of winnings and pay patrons. May operate keno and bingo equipment. May start gaming equipment that randomly selects numbers. May announce number selected until total numbers specified for each game are selected. May pick up tickets from players, collect bets, receive, verify and record patrons' cash wagers.

Illustrative Examples: Sheet Writer; Keno Writers; Keno Runners

39-3021 Motion Picture Projectionists

Set up and operate motion picture projection and related sound reproduction equipment.

Illustrative Examples: Chief Projectionist; Film Projector Operator

39-3031 Ushers, Lobby Attendants, and Ticket Takers

Assist patrons at entertainment events by performing duties, such as collecting admission tickets and passes from patrons, assisting in finding seats, searching for lost articles, and locating such facilities as rest rooms and telephones.

Illustrative Examples: Door Attendant; Ticket Collector

39-3091 Amusement and Recreation Attendants

Perform variety of attending duties at amusement or recreation facility. May schedule use of recreation facilities, maintain and provide equipment to participants of sporting events or recreational pursuits, or operate amusement concessions and rides.

Illustrative Examples: Arcade Attendant; Golf Course Starter; Caddy

39-3092 Costume Attendants

Select, fit, and take care of costumes for cast members, and aid entertainers.

Illustrative Examples: Wardrobe Custodian; Dresser

39-3093 Locker Room, Coatroom, and Dressing Room Attendants

Provide personal items to patrons or customers in locker rooms, dressing rooms, or coatrooms.

Illustrative Examples: Bathhouse Attendant; Jockey Valet

39-3099 Entertainment Attendants and Related Workers, All Other

All entertainment attendants and related workers not listed separately.

Illustrative Example: Department Store Greeter, Shill; Chip Mucker; Pit Clerk

39-4011 Embalmers

Prepare bodies for interment in conformity with legal requirements.

39-4021 Funeral Attendants

Perform variety of tasks during funeral, such as placing casket in parlor or chapel prior to service; arranging floral offerings or lights around casket; directing or escorting mourners; closing casket; and issuing and storing funeral equipment.

Illustrative Examples: Mortician Helper; Pallbearer

39-5011 Barbers

Provide barbering services, such as cutting, trimming, shampooing, and styling hair, trimming beards, or giving shaves.

Illustrative Examples: Barber Apprentice; Hair Cutter

39-5012 Hairdressers, Hairstylists, and Cosmetologists

Provide beauty services, such as shampooing, cutting, coloring, and styling hair, and massaging and treating scalp. May also apply makeup, dress wigs, perform hair removal, and provide nail and skin care services.

Illustrative Examples: Beautician; Wig Stylist; Electrologist

39-5091 Makeup Artists, Theatrical and Performance

Apply makeup to performers to reflect period, setting, and situation of their role.

39-5092 Manicurists and Pedicurists

Clean and shape customers' fingernails and toenails. May polish or decorate nails.

Illustrative Example: Fingernail Sculptor

39-5093 Shampooers

Shampoo and rinse customers' hair.

Illustrative Example: Scalp Treatment Operator

39-5094 Skin Care Specialists

Provide skin care treatments to face and body to enhance an individual's appearance.

Illustrative Example: Esthetician

39-6011 Baggage Porters and Bellhops

Handle baggage for travelers at transportation terminals or for guests at hotels or similar establishments.

Illustrative Examples: Baggage Handler; Lobby Porter; Skycap

39-6012 Concierges

Assist patrons at hotel, apartment or office building with personal services. May take messages, arrange or give advice on transportation, business services or entertainment, or monitor guest requests for housekeeping and maintenance.

39-6021 Tour Guides and Escorts

Escort individuals or groups on sightseeing tours or through places of interest, such as industrial establishments, public buildings, and art galleries.

Illustrative Examples: Page; Sightseeing Guide

39-6022 Travel Guides

Plan, organize, and conduct long distance cruises, tours, and expeditions for individuals and groups.

Illustrative Examples: Cruise Director; Tour Director

39-6031 Flight Attendants

Provide personal services to ensure the safety and comfort of airline passengers during flight. Greet passengers, verify tickets, explain use of safety equipment, and serve food or beverages.

Illustrative Examples: Flight Steward; Airline Stewardess

39-6032 Transportation Attendants, Except Flight Attendants and Baggage Porters

Provide services to ensure the safety and comfort of passengers aboard ships, buses, trains, or within the station or terminal. Perform duties, such as greeting passengers, explaining the use of safety equipment, serving meals or beverages, or answering questions related to travel.

Illustrative Examples: Club Car Attendant; Ground Attendant; Subway Conductor

39-9011 Child Care Workers

Attend to children at schools, businesses, private households, and childcare institutions. Perform a variety of tasks, such as dressing, feeding, bathing, and overseeing play. Exclude “Preschool Teachers” (25-2011) and “Teacher Assistants” (25-9041).

Illustrative Examples: Baby Sitter; Governess; Nanny

39-9021 Personal and Home Care Aides

Assist elderly or disabled adults with daily living activities at the person’s home or in a daytime non-residential facility. Duties performed at a place of residence may include keeping house (making beds, doing laundry, washing dishes) and preparing meals. May provide meals and supervised activities at non-residential care facilities. May advise families, the elderly, and disabled on such things as nutrition, cleanliness, and household utilities.

Illustrative Examples: Blind Escort; Caregiver; Geriatric Aide

39-9031 Fitness Trainers and Aerobics Instructors

Instruct or coach groups or individuals in exercise activities and the fundamentals of sports. Demonstrate techniques and methods of participation. Observe participants and inform them of corrective measures necessary to improve their skills. Those required to hold teaching degrees should be reported in the appropriate teaching category. Exclude “Athletic Trainers” (29-9091).

Illustrative Examples: Exercise Teacher; Personal Trainer; Yoga Teacher

39-9032 Recreation Workers

Conduct recreation activities with groups in public, private, or volunteer agencies or recreation facilities. Organize and promote activities, such as arts and crafts, sports, games, music, dramatics, social recreation, camping, and hobbies, taking into account the needs and interests of individual members.

Illustrative Examples: Camp Counselor; Playground Director; Activities Director

39-9041 Residential Advisors

Coordinate activities for residents of boarding schools, college fraternities or sororities, college dormitories, or similar establishments. Order supplies and determine need for maintenance, repairs, and furnishings. May maintain household records and assign rooms. May refer residents to counseling resources if needed.

Illustrative Examples: Dormitory Supervisor; House Parent

39-9099 Personal Care and Service Workers, All Other

All personal care and service workers not listed separately.

Illustrative Examples: Shoe Shiner; Chaperone; Servant

Sales and Related Occupations

41-1011 First-Line Supervisors/Managers of Retail Sales Workers

Directly supervise sales workers in a retail establishment or department. Duties may include management functions, such as purchasing, budgeting, accounting, and personnel work, in addition to supervisory duties.

Illustrative Examples: Department Manager; Flower Shop Manager; Supervisor of Cashiers

41-1012 First-Line Supervisors/Managers of Non-Retail Sales Workers

Directly supervise and coordinate activities of sales workers other than retail sales workers. May perform duties, such as budgeting, accounting, and personnel work, in addition to supervisory duties.

Illustrative Examples: District Sales Manager; Dry Cleaning Manager; Blood-Donor Recruiter Supervisor

41-2011 Cashiers

Receive and disburse money in establishments other than financial institutions. Usually involves use of electronic scanners, cash registers, or related equipment. Often involved in processing credit or debit card transactions and validating checks.

Illustrative Examples: Auction Clerk; Toll Collector; Disbursement Clerk

41-2012 Gaming Change Persons and Booth Cashiers

Exchange coins and tokens for patrons’ money. May issue payoffs and obtain customer’s signature on receipt when winnings exceed the amount held in the slot machine. May operate a booth in the slot machine area and furnish change persons with money bank at the start of the shift, or count and audit money in drawers.

Illustrative Examples: Carousel Attendant; Slot Attendant

41-2021 Counter and Rental Clerks

Receive orders for repairs, rentals, and services. May describe available options, compute cost, and accept payment.

Illustrative Examples: Airplane-Charter Clerk; Car Rental Agent; Skate Shop Attendant

41-2022 Parts Salespersons

Sell spare and replacement parts and equipment in repair shop or parts store.

Illustrative Examples: Parts Clerk; Auto Parts Salesperson; Electronic Parts Salesperson

41-2031 Retail Salespersons

Sell merchandise, such as furniture, motor vehicles, appliances, or apparel in a retail establishment. Exclude "Cashiers" (41-2011).

Illustrative Examples: Car Dealer; Haberdasher; Wallpaper Salesperson

41-3011 Advertising Sales Agents

Sell or solicit advertising, including graphic art, advertising space in publications, custom made signs, or TV and radio advertising time. May obtain leases for outdoor advertising sites or persuade retailer to use sales promotion display items.

Illustrative Examples: Radio Time Salesperson; Yellow Pages Salesperson; Leasing Agent Outdoor Advertising

41-3021 Insurance Sales Agents

Sell life, property, casualty, health, automotive, or other types of insurance. May refer clients to independent brokers, work as independent broker, or be employed by an insurance company.

Illustrative Examples: Insurance Broker; Insurance Solicitor; Pension Agent

41-3031 Securities, Commodities, and Financial Services Sales Agents

Buy and sell securities in investment and trading firms, or call upon businesses and individuals to sell financial services. Provide financial services, such as loan, tax, and securities counseling. May advise securities customers about such things as stocks, bonds, and market conditions.

Illustrative Examples: Investment Banker; Stock Broker; Stock Trader

41-3041 Travel Agents

Plan and sell transportation and accommodations for travel agency customers. Determine destination, modes of transportation, travel dates, costs, and accommodations required.

Illustrative Examples: Travel Consultant; Travel Counselor

41-4011 Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products

Sell goods for wholesalers or manufacturers where technical or scientific knowledge is required in such areas as biology, engineering, chemistry, and electronics, normally obtained from at least 2 years of post-secondary education.

Illustrative Examples: Electronics Sales Representative; Oilfield Equipment Sales Representative; Pharmaceutical Representative

41-4012 Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products

Sell goods for wholesalers or manufacturers to businesses or groups of individuals. Work requires substantial knowledge of items sold.

Illustrative Examples: Diamond Broker; Oil Distributor; Wool Merchant

41-9011 Demonstrators and Product Promoters

Demonstrate merchandise and answer questions for the purpose of creating public interest in buying the product. May sell demonstrated merchandise.

Illustrative Examples: Home Demonstrator; Exhibit-Display Representative

41-9012 Models

Model garments and other apparel to display clothing before prospective buyers at fashion shows, private showings, retail establishments, or photographer. May pose for photos to be used for advertising purposes. May pose as subject for paintings, sculptures, and other types of artistic expression.

Illustrative Examples: Fashion Model; Mannequin; Photographer's Model

41-9021 Real Estate Brokers

Operate real estate office, or work for commercial real estate firm, overseeing real estate transactions. Other duties usually include selling real estate or renting properties and arranging loans.

41-9022 Real Estate Sales Agents

Rent, buy, or sell property for clients. Perform duties, such as study property listings, interview prospective clients, accompany clients to property site, discuss conditions of sale, and draw up real estate contracts. Include agents who represent buyer.

Illustrative Examples: Apartment Rental Agent; Land Agent; Right of Way Agent

41-9031 Sales Engineers

Sell business goods or services, the selling of which requires a technical background equivalent to a baccalaureate degree in engineering. Exclude "Engineers" (17-2011 through 17-2199) whose primary function is not marketing or sales.

Illustrative Examples: Aeronautical Products Sales Engineer; Industrial Machinery Sales Engineer; Nuclear Equipment Sales Engineer

41-9041 Telemarketers

Solicit orders for goods or services over the telephone.

Illustrative Examples: Telephone Salesperson; Telephone Solicitor

41-9091 Door-to-Door Sales Workers, News and Street Vendors, and Related Workers

Sell goods or services door-to-door or on the street.

Illustrative Examples: Peddler; Direct Selling

41-9099 Sales and Related Workers, All Other

All sales and related workers not listed separately.

Illustrative Examples: Bridal Consultant; Auctioneer; Fund Raiser; Data Processing Sales Representative; Telecommunications Consultant

Office and Administrative Support Occupations

43-1011 First-Line Supervisors/Managers of Office and Administrative Support Workers

Supervise and coordinate the activities of clerical and administrative support workers.

Illustrative Examples: Claims Supervisor; Stock Room Manager; Teller Supervisor

43-2011 Switchboard Operators, Including Answering Service

Operate telephone business systems equipment or switchboards to relay incoming, outgoing, and interoffice calls. May supply information to callers and record messages.

Illustrative Examples: Communication Center Operator; Exchange Operator; Telephone Answering Service Operator

43-2021 Telephone Operators

Provide information by accessing alphabetical and geographical directories. Assist customers with special billing requests, such as charges to a third party and credits or refunds for incorrectly dialed numbers or bad con-

nections. May handle emergency calls and assist children or people with physical disabilities to make telephone calls.

Illustrative Examples: Directory Assistance Operator; Long Distance Operator; Routing Operator

43-2099 Communications Equipment Operators, All Other

All communications equipment operators not listed separately.

Illustrative Example: Telegraph Operator

43-3011 Bill and Account Collectors

Locate and notify customers of delinquent accounts by mail, telephone, or personal visit to solicit payment. Duties include receiving payment and posting amount to customer's account; preparing statements to credit department if customer fails to respond; initiating repossession proceedings or service disconnection; keeping records of collection and status of accounts.

Illustrative Examples: Payment Collector; Collection Clerk; Installment Agent

43-3021 Billing and Posting Clerks and Machine Operators

Compile, compute, and record billing, accounting, statistical, and other numerical data for billing purposes. Prepare billing invoices for services rendered or for delivery or shipment of goods.

Illustrative Examples: Calculating Machine Operator; Invoice Control Clerk; Rating Clerk

43-3031 Bookkeeping, Accounting, and Auditing Clerks

Compute, classify, and record numerical data to keep financial records complete. Perform any combination of routine calculating, posting, and verifying duties to obtain primary financial data for use in maintaining accounting records. May also check the accuracy of figures, calculations, and postings pertaining to business transactions recorded by other workers.

Illustrative Examples: Accounts Receivable Clerk; Ledger Clerk; Voucher Examiner

43-3041 Gaming Cage Workers

In a gaming establishment, conduct financial transactions for patrons. May reconcile daily summaries of transactions to balance books. Accept patron's credit application and verify credit references to provide check-cashing authorization or to establish house credit accounts. May sell gambling chips, tokens, or tickets to patrons, or to other workers for resale to patrons. May convert gaming chips, tokens, or tickets to currency upon

patron's request. May use a cash register or computer to record transaction.

43-3051 Payroll and Timekeeping Clerks

Compile and post employee time and payroll data. May compute employees' time worked, production, and commission. May compute and post wages and deductions. May prepare paychecks.

Illustrative Examples: Attendance Clerk; Payroll Bookkeeper; Timekeeper

43-3061 Procurement Clerks

Compile information and records to draw up purchase orders for procurement of materials and services.

Illustrative Examples: Property and Supply Officer; Purchasing Clerk

43-3071 Tellers

Receive and pay out money. Keep records of money and negotiable instruments involved in a financial institution's various transactions.

Illustrative Examples: Foreign Exchange Clerk; Money Order Clerk; Securities Teller

43-4011 Brokerage Clerks

Perform clerical duties involving the purchase or sale of securities. Duties include writing orders for stock purchases and sales, computing transfer taxes, verifying stock transactions, accepting and delivering securities, tracking stock price fluctuations, computing equity, distributing dividends, and keeping records of daily transactions and holdings.

Illustrative Examples: Portfolio Assistant; Dividend Clerk; Telephone Quotation Clerk

43-4021 Correspondence Clerks

Compose letters in reply to requests for merchandise, damage claims, credit and other information, delinquent accounts, incorrect billings, or unsatisfactory services. Duties may include gathering data to formulate reply and typing correspondence.

Illustrative Examples: Collection Correspondent; Fan Mail Editor

43-4031 Court, Municipal, and License Clerks

Perform clerical duties in courts of law, municipalities, and governmental licensing agencies and bureaus. May prepare docket of cases to be called; secure information for judges and court; prepare draft agendas or bylaws for town or city council; answer official correspondence; keep fiscal records and accounts; issue licenses or permits; record data, administer tests, or collect fees. Include chief clerks with "Managers, All Other" (11-9199).

Illustrative Examples: Circuit Court Clerk; Warrant Clerk

43-4041 Credit Authorizers, Checkers, and Clerks

Authorize credit charges against customers' accounts. Investigate history and credit standing of individuals or business establishments applying for credit. May interview applicants to obtain personal and financial data; determine credit worthiness; process applications; and notify customers of acceptance or rejection of credit.

Illustrative Examples: Credit Interviewer; Credit Rating Inspector; Loan Adjuster

43-4051 Customer Service Representatives

Interact with customers to provide information in response to inquiries about products and services and to handle and resolve complaints. Exclude individuals whose duties are primarily sales or repair.

Illustrative Examples: Complaint Adjuster; Passenger Relations Representative; Telephone Service Adviser

43-4061 Eligibility Interviewers, Government Programs

Determine eligibility of persons applying to receive assistance from government programs and agency resources, such as welfare, unemployment benefits, social security, and public housing.

Illustrative Examples: Unemployment Benefits Claims Taker; County Service Officer; Welfare Interviewer

43-4071 File Clerks

File correspondence, cards, invoices, receipts, and other records in alphabetical or numerical order or according to the filing system used. Locate and remove material from file when requested.

Illustrative Examples: Computer Tape Librarian; Document Clerk; Records Custodian

43-4081 Hotel, Motel, and Resort Desk Clerks

Accommodate hotel, motel, and resort patrons by registering and assigning rooms to guests, issuing room keys, transmitting and receiving messages, keeping records of occupied rooms and guests' accounts, making and confirming reservations, and presenting statements to and collecting payments from departing guests.

Illustrative Examples: Register Clerk; Room Clerk

43-4111 Interviewers, Except Eligibility and Loan

Interview persons by telephone, mail, in person, or by other means for the purpose of completing forms, applications, or questionnaires. Ask specific questions, record answers, and assist persons with completing form. May sort, classify, and file forms.

Illustrative Examples: Census Taker; Market Research Interviewer; Out-patient Admitting Clerk

43-4121 Library Assistants, Clerical

Compile records, sort and shelf books, and issue and receive library materials such as pictures, cards, slides and microfilm. Locate library materials for loan and replace material in shelving area, stacks, or files according to identification number and title. Register patrons to permit them to borrow books, periodicals, and other library materials.

Illustrative Examples: Braille and Talking Books Clerk; Circulation Clerk; Microfilm Clerk

43-4131 Loan Interviewers and Clerks

Interview loan applicants to elicit information; investigate applicants' backgrounds and verify references; prepare loan request papers; and forward findings, reports, and documents to appraisal department. Review loan papers to ensure completeness, and complete transactions between loan establishment, borrowers, and sellers upon approval of loan.

Illustrative Examples: Loan Closer; Loan Processor; Mortgage Clerk

43-4141 New Accounts Clerks

Interview persons desiring to open bank accounts. Explain banking services available to prospective customers and assist them in preparing application form.

Illustrative Example: Banking Services Clerk

43-4151 Order Clerks

Receive and process incoming orders for materials, merchandise, classified ads, or services such as repairs, installations, or rental of facilities. Duties include informing customers of receipt, prices, shipping dates, and delays; preparing contracts; and handling complaints. Exclude "Dispatchers, Except Police, Fire, and Ambulance" (43-5032) who both dispatch and take orders for services.

Illustrative Examples: Catalogue Clerk; Subscription Clerk; Classified Advertisement Clerk

43-4161 Human Resources Assistants, Except Payroll and Timekeeping

Compile and keep personnel records. Record data for each employee, such as address, weekly earnings, absences, amount of sales or production, supervisory reports on ability, and date of and reason for termination. Compile and type reports from employment records. File employment records. Search employee files and furnish information to authorized persons.

Illustrative Example: Personnel Clerk

43-4171 Receptionists and Information Clerks

Answer inquiries and obtain information for general public, customers, visitors, and other interested parties. Provide information regarding activities conducted at establishment; location of departments, offices, and employees within organization. Exclude "Switchboard Operators, Including Answering Service" (43-2011).

Illustrative Examples: Appointment Clerk; Front Desk Clerk; Referral and Information Aide

43-4181 Reservation and Transportation Ticket Agents and Travel Clerks

Make and confirm reservations and sell tickets to passengers and for large hotel or motel chains. May check baggage and direct passengers to designated concourse, pier, or track; make reservations, deliver tickets, arrange for visas, contact individuals and groups to inform them of package tours, or provide tourists with travel information, such as points of interest, restaurants, rates, and emergency service. Exclude "Travel Agents" (41-3041), "Hotel, Motel, and Resort Desk Clerks" (43-4081), and "Cashiers" (41-2011) who sell tickets for local transportation.

Illustrative Examples: Ticket Clerk; Hotel Reservationist; Gate Agent

43-4999 Financial, Information, and Record Clerks, All Other

Student Admissions Clerk; Suggestion Clerk; Vault Custodian

43-5011 Cargo and Freight Agents

Expedite and route movement of incoming and outgoing cargo and freight shipments in airline, train, and trucking terminals, and shipping docks. Take orders from customers and arrange pickup of freight and cargo for delivery to loading platform. Prepare and examine bills of lading to determine shipping charges and tariffs.

Illustrative Examples: Routing Agent; Shipping Agent

43-5021 Couriers and Messengers

Pick up and carry messages, documents, packages, and other items between offices or departments within an establishment or to other business concerns, traveling by foot, bicycle, motorcycle, automobile, or public conveyance. Exclude "Truck Drivers, Light or Delivery Services" (53-3033).

Illustrative Examples: Message Delivery Clerk; Telegraph Messenger

43-5031 Police, Fire, and Ambulance Dispatchers
Receive complaints from public concerning crimes and police emergencies. Broadcast orders to police patrol units in vicinity of complaint to investigate. Operate radio, telephone, or computer equipment to receive reports of fires and medical emergencies and relay information or orders to proper officials.

Illustrative Examples: 911 Operator; Emergency Operator; Public Safety Dispatcher

43-5032 Dispatchers, Except Police, Fire, and Ambulance

Schedule and dispatch workers, work crews, equipment, or service vehicles for conveyance of materials, freight, or passengers, or for normal installation, service, or emergency repairs rendered outside the place of business. Duties may include using radio, telephone, or computer to transmit assignments and compiling statistics and reports on work progress.

Illustrative Examples: Security Dispatcher; Repair Service Dispatcher; Taxicab Dispatcher

43-5041 Meter Readers, Utilities

Read meter and record consumption of electricity, gas, water, or steam.

Illustrative Examples: Electric Meter Reader; Meter Record Clerk; Water Meter Reader

43-5051 Postal Service Clerks

Perform any combination of tasks in a post office, such as receive letters and parcels; sell postage and revenue stamps, postal cards, and stamped envelopes; fill out and sell money orders; place mail in pigeon holes of mail rack or in bags according to State, address, or other scheme; and examine mail for correct postage.

Illustrative Examples: Parcel Post Clerk; Special Delivery Clerk; Stamp Clerk

43-5052 Postal Service Mail Carriers

Sort mail for delivery. Deliver mail on established route by vehicle or on foot.

Illustrative Examples: Letter Carrier; Mail Deliverer; Route Carrier

43-5053 Postal Service Mail Sorters, Processors, and Processing Machine Operators

Prepare incoming and outgoing mail for distribution. Examine, sort, and route mail by State, type of mail, or other scheme. Load, operate, and occasionally adjust and repair mail processing, sorting, and canceling machinery. Keep records of shipments, pouches, and sacks; and other duties related to mail handling within the postal service. Must complete a competitive exam. Exclude

“Postal Service Clerks” (43-5051) and “Postal Service Mail Carriers” (43-5052).

Illustrative Examples: Mail Weigher; Mail Handler Sorting Mail

43-5061 Production, Planning, and Expediting Clerks

Coordinate and expedite the flow of work and materials within or between departments of an establishment according to production schedule. Duties include reviewing and distributing production, work, and shipment schedules; conferring with department supervisors to determine progress of work and completion dates; and compiling reports on progress of work, inventory levels, costs, and production problems. Exclude “Weighers, Measurers, Checkers, and Samplers, Recordkeeping” (43-5111).

Illustrative Examples: Assignment Agent; Production Dispatcher; Expediter

43-5071 Shipping, Receiving, and Traffic Clerks

Verify and keep records on incoming and outgoing shipments. Prepare items for shipment. Duties include assembling, addressing, stamping, and shipping merchandise or material; receiving, unpacking, verifying and recording incoming merchandise or material; and arranging for the transportation of products. Exclude “Stock Clerks and Order Fillers” (43-5081) and “Weighers, Measurers, Checkers, and Samplers, Recordkeeping” (43-5111).

Illustrative Examples: Receiver; Garment Sorter; Freight Separator

43-5081 Stock Clerks and Order Fillers

Receive, store, and issue sales floor merchandise, materials, equipment, and other items from stockroom, warehouse, or storage yard to fill shelves, racks, tables, or customers' orders. May mark prices on merchandise and set up sales displays. Exclude “Laborers and Freight, Stock, and Material Movers, Hand” (53-7062), and “Shipping, Receiving, and Traffic Clerks” (43-5071).

Illustrative Examples: Inventory Control Clerk; Tool-Crib Attendant; Warehouse Clerk

43-5111 Weighers, Measurers, Checkers, and Samplers, Recordkeeping

Weigh, measure, and check materials, supplies, and equipment for the purpose of keeping relevant records. Duties are primarily clerical by nature. Include workers who collect and keep record of samples of products or materials. Exclude production “Inspectors, Testers, Sorters, Samplers, and Weighers” (51-9061).

Illustrative Examples: Counter; Inventory Checker; Scale Attendant

43-5199 Material Recording, Scheduling, Dispatching, and Distributing Workers, All Other**43-6011 Executive Secretaries and Administrative Assistants**

Provide high-level administrative support by conducting research, preparing statistical reports, handling information requests, and performing clerical functions such as preparing correspondence, receiving visitors, arranging conference calls, and scheduling meetings. May also train and supervise lower-level clerical staff. Exclude "Secretaries" (43-6012 through 43-6014).

43-6012 Legal Secretaries

Perform secretarial duties utilizing legal terminology, procedures, and documents. Prepare legal papers and correspondence, such as summonses, complaints, motions, and subpoenas. May also assist with legal research.

43-6013 Medical Secretaries

Perform secretarial duties utilizing specific knowledge of medical terminology and hospital, clinic, or laboratory procedures. Duties include scheduling appointments, billing patients, and compiling and recording medical charts, reports, and correspondence.

Illustrative Examples: Psychiatric Secretary; Dental Secretary

43-6014 Secretaries, Except Legal, Medical, and Executive

Perform routine clerical and administrative functions such as drafting correspondence, scheduling appointments, organizing and maintaining paper and electronic files, or providing information to callers. Exclude legal, medical, or executive secretaries and administrative assistants (43-6011 through 43-6013).

Illustrative Examples: Personal Secretary; Office Secretary; Receptionist Secretary

43-9011 Computer Operators

Monitor and control electronic computer and peripheral electronic data processing equipment to process business, scientific, engineering, and other data according to operating instructions. May enter commands at a computer terminal and set controls on computer and peripheral devices. Monitor and respond to operating and error messages. Exclude "Data Entry Keyers" (43-9021).

Illustrative Examples: Console Operator; Data Processing Clerk; Peripheral Equipment Operator

43-9021 Data Entry Keyers

Operate data entry device, such as keyboard or photo composing perforator. Duties may include verifying data and preparing materials for printing. Exclude "Word Processors and Typists" (43-9022).

Illustrative Examples: Key punch Operator; Data Typist

43-9022 Word Processors and Typists

Use word processor/computer or typewriter to type letters, reports, forms, or other material from rough draft, corrected copy, or voice recording. May perform other clerical duties as assigned. Include composing data keyers. Exclude "Data Entry Keyers" (43-9021), "Secretaries and Administrative Assistants" (43-6011 through 43-6014), "Court Reporters" (23-2091), and "Medical Transcriptionists" (31-9094).

Illustrative Examples: Clerk Typist; Dictaphone Typist

43-9031 Desktop Publishers

Format typescript and graphic elements using computer software to produce publication-ready material.

Illustrative Examples: Computer Composer; Electronic Pagination System Operator; Page Makeup System Operator

43-9041 Insurance Claims and Policy Processing Clerks

Process new insurance policies, modifications to existing policies, and claims forms. Obtain information from policyholders to verify the accuracy and completeness of information on claims forms, applications and related documents, and company records. Update existing policies and company records to reflect changes requested by policyholders and insurance company representatives. Exclude "Claims Adjusters, Examiners, and Investigators" (13-1031).

Illustrative Examples: Claim Taker; Policy Issue Clerk; Underwriting Clerk

43-9051 Mail Clerks and Mail Machine Operators, Except Postal Service

Prepare incoming and outgoing mail for distribution. Use hand or mail handling machines to time stamp, open, read, sort, and route incoming mail; and address, seal, stamp, fold, stuff, and affix postage to outgoing mail or packages. Duties may also include keeping necessary records and completed forms.

Illustrative Examples: Addressing Machine Operator; Mail Distributor; Mail Opener

43-9061 Office Clerks, General

Perform duties too varied and diverse to be classified in any specific office clerical occupation, requiring limited

knowledge of office management systems and procedures. Clerical duties may be assigned in accordance with the office procedures of individual establishments and may include a combination of answering telephones, bookkeeping, typing or word processing, stenography, office machine operation, and filing.

Illustrative Examples: Administrative Clerk; Office Assistant; Real Estate Clerk

43-9071 Office Machine Operators, Except Computer

Operate one or more of a variety of office machines, such as photocopying, photographic, and duplicating machines, or other office machines. Exclude "Computer Operators" (43-9011), "Mail Clerks and Mail Machine Operators" (43-9051) and "Billing and Posting Clerks and Machine Operators" (43-3021).

Illustrative Examples: Check Embosser; Coin Wrapping Machine Operator; Copy Machine Operator

43-9081 Proofreaders and Copy Markers

Read transcript or proof type setup to detect and mark for correction any grammatical, typographical, or compositional errors. Exclude workers whose primary duty is editing copy. Include proofreaders of Braille.

Illustrative Examples: Braille Proofreader; Copy Reader

43-9111 Statistical Assistants

Compile and compute data according to statistical formulas for use in statistical studies. May perform actuarial computations and compile charts and graphs for use by actuaries. Include actuarial clerks.

Illustrative Examples: Tabulating Clerk; Compiler; Data Technician

43-9999 Secretaries, Administrative Assistants, and Other Office Support Workers, All Other

All office and administrative support workers not listed separately.

Illustrative Examples: Notary Public; Envelope Stuffer

Farming, Fishing, and Forestry Occupations

45-1011 First-Line Supervisors/Managers of Farming, Fishing, and Forestry Workers

Directly supervise and coordinate the activities of agricultural, forestry, aquacultural, and related workers. Exclude "First-Line Supervisors/Managers of Landscaping, Lawn Service, and Groundskeeping Workers" (37-1012).

Illustrative Examples: Christmas Tree Farm Manager; Harvest Crew Supervisor; Fish Hatchery Supervisor

45-2011 Agricultural Inspectors

Inspect agricultural commodities, processing equipment, and facilities, and fish and logging operations, to ensure compliance with regulations and laws governing health, quality, and safety.

Illustrative Examples: Cattle Examiner; Meat Grader; Grain Sampler

45-2021 Animal Breeders

Breed animals, including cattle, goats, horses, sheep, swine, poultry, dogs, cats, or pet birds. Select and breed animals according to their genealogy, characteristics, and offspring. May require a knowledge of artificial insemination techniques and equipment use. May involve keeping records on heats, birth intervals, or pedigree. Exclude "Nonfarm Animal Caretakers" (39-2021) who may occasionally breed animals as part of their other caretaking duties. Exclude "Animal Scientists" (19-1011) whose primary function is research.

Illustrative Examples: Artificial Inseminator; Chicken Fancier; Horse Breeder

45-2031 Farm Labor Contractors

Recruit, hire, furnish, and supervise seasonal or temporary agricultural laborers for a fee. May transport, house, and provide meals for workers.

Illustrative Example: Harvesting Contractor

45-2041 Graders and Sorters, Agricultural Products

Grade, sort, or classify unprocessed food and other agricultural products by size, weight, color, or condition. Exclude "Agricultural Inspectors" (45-2011).

Illustrative Examples: Chicken Grader; Cotton Classer; Fruit Sorter

45-2091 Agricultural Equipment Operators

Drive and control farm equipment to till soil and to plant, cultivate, and harvest crops. May perform tasks, such as crop baling or hay bucking. May operate stationary equipment to perform post-harvest tasks, such as husking, shelling, threshing, and ginning.

Illustrative Examples: Baler; Combine Operator; Tractor Driver

45-2092 Farmworkers and Laborers, Crop, Nursery, and Greenhouse

Manually plant, cultivate, and harvest vegetables, fruits, nuts, horticultural specialties, and field crops. Use hand

tools, such as shovels, trowels, hoes, tampers, pruning hooks, shears, and knives. Duties may include tilling soil and applying fertilizers; transplanting, weeding, thinning, or pruning crops; applying pesticides; cleaning, grading, sorting, packing and loading harvested products. May construct trellises, repair fences and farm buildings, or participate in irrigation activities. Exclude "Graders and Sorters, Agricultural Products" (45-2041). Exclude "Forest, Conservation, and Logging Workers" (45-4011 through 45-4029).

Illustrative Examples: Apple Picker; Tobacco Cutter; Vegetable Loader

45-2093 Farmworkers, Farm and Ranch Animal

Attend to live farm, ranch, or aquacultural animals that may include cattle, sheep, swine, goats, horses and other equines, poultry, finfish, shellfish, and bees. Attend to animals produced for animal products, such as meat, fur, skins, feathers, eggs, milk, and honey. Duties may include feeding, watering, herding, grazing, castrating, branding, de-beaking, weighing, catching, and loading animals. May maintain records on animals; examine animals to detect diseases and injuries; assist in birth deliveries; and administer medications, vaccinations, or insecticides as appropriate. May clean and maintain animal housing areas. Include workers who shear wool from sheep, and collect eggs in hatcheries.

Illustrative Examples: Horse Groomer; Beekeeper; Livestock Feeder

45-3011 Fishers and Related Fishing Workers

Use nets, fishing rods, traps, or other equipment to catch and gather fish or other aquatic animals from rivers, lakes, or oceans, for human consumption or other uses. May haul game onto ship. Include aquacultural laborers who work on fish farms with "Agricultural Workers, All Other" (45-2099).

Illustrative Examples: Fishing Boat Captain; Crabber; Seaweed Harvester

45-4011 Forest and Conservation Workers

Under supervision, perform manual labor necessary to develop, maintain, or protect forest, forested areas, and woodlands through such activities as raising and transporting tree seedlings; combating insects, pests, and diseases harmful to trees; and building erosion and water control structures and leaching of forest soil. Include forester aides, seedling pullers, and tree planters.

Illustrative Examples: Christmas Tree Farm Worker; Seedling Puller; Forestry Laborer

45-4021 Fallers

Use axes or chainsaws to fell trees using knowledge of tree characteristics and cutting techniques to control direction of fall and minimize tree damage.

Illustrative Examples: Cross Cut Sawyer; Lumberjack; Timber Cutter

45-4022 Logging Equipment Operators

Drive logging tractor or wheeled vehicle equipped with one or more accessories, such as bulldozer blade, frontal shear, grapple, logging arch, cable winches, hoisting rack, or crane boom, to fell tree; to skid, load, unload, or stack logs; or to pull stumps or clear brush.

Illustrative Examples: Log Hauler; Logging Tractor Operator; Skidder Driver

45-4023 Log Graders and Scalers

Grade logs or estimate the marketable content or value of logs or pulpwood in sorting yards, millpond, log deck, or similar locations. Inspect logs for defects or measure logs to determine volume. Exclude "Purchasing Agents and Buyers, Farm Products" (13-1021).

Illustrative Examples: Timber Estimator; Landing Scaler

45-9099 Farming, Fishing, and Forestry Workers, All Other

All agricultural workers not listed separately.

Illustrative Examples: Irrigation Worker; Livestock Showman, Predatory Animal Exterminator; Bird Trapper, Barker; Cable Hooker; Rigging Slinger

Construction and Extraction Occupations

47-1011 First-Line Supervisors/Managers of Construction Trades and Extraction Workers

Directly supervise and coordinate activities of construction or extraction workers.

Illustrative Examples: Cement Contractor; Quarry Boss

47-2011 Boilermakers

Construct, assemble, maintain, and repair stationary steam boilers and boiler house auxiliaries. Align structures or plate sections to assemble boiler frame tanks or vats, following blueprints. Work involves use of hand and power tools, plumb bobs, levels, wedges, dogs, or turnbuckles. Assist in testing assembled vessels. Direct cleaning of boilers and boiler furnaces. Inspect and repair boiler fittings, such as safety valves, regulators, automatic-control mechanisms, water columns, and auxiliary machines.

Illustrative Examples: Boiler Installer; Boiler Mechanic; Pressure Tester

47-2021 Brickmasons and Blockmasons

Lay and bind building materials, such as brick, structural tile, concrete block, cinder block, glass block, and terra-cotta block, with mortar and other substances to construct or repair walls, partitions, arches, sewers, and other structures. Exclude "Stonemasons" (47-2022). Classify installers of mortarless segmental concrete masonry wall units in "Landscaping and Groundskeeping Workers" (37-3011).

Illustrative Examples: Adobe Layer; Chimney Builder; Furnace Liner

47-2022 Stonemasons

Build stone structures, such as piers, walls, and abutments. Lay walks, curbstones, or special types of masonry for vats, tanks, and floors.

Illustrative Examples: Granite Setter; Monument Installer; Rock Mason

47-2031 Carpenters

Construct, erect, install, or repair structures and fixtures made of wood, such as concrete forms; building frameworks, including partitions, joists, studding, and rafters; wood stairways, window and door frames, and hardwood floors. May also install cabinets, siding, drywall and batt or roll insulation. Include brattice builders who build doors or brattices (ventilation walls or partitions) in underground passageways to control the proper circulation of air through the passageways and to the working places.

Illustrative Examples: Shipwright; Cabinetmaker; Wood Floor Layer

47-2041 Carpet Installers

Lay and install carpet from rolls or blocks on floors. Install padding and trim flooring materials. Exclude "Floor Layers, Except Carpet, Wood, and Hard Tiles" (47-2042).

Illustrative Examples: Floor Coverer; Rug Layer

47-2042 Floor Layers, Except Carpet, Wood, and Hard Tiles

Apply blocks, strips, or sheets of shock-absorbing, sound-deadening, or decorative coverings to floors.

Illustrative Examples: Composition Floor Setter; Linoleum Layer; Soft Tile Setter

47-2043 Floor Sanders and Finishers

Scrape and sand wooden floors to smooth surfaces using floor scraper and floor sanding machine, and apply coats of finish.

Illustrative Examples: Floor Sanding Machine Operator; Floor Surfer; Hardwood Finisher

47-2044 Tile and Marble Setters

Apply hard tile, marble, and wood tile to walls, floors, ceilings, and roof decks.

Illustrative Examples: Ceramic Tile Installer; Hard Tile Setter; Marble Installer

47-2051 Cement Masons and Concrete Finishers

Smooth and finish surfaces of poured concrete, such as floors, walks, sidewalks, roads, or curbs using a variety of hand and power tools. Align forms for sidewalks, curbs, or gutters; patch voids; use saws to cut expansion joints. Classify installers of mortarless segmental concrete masonry wall units in "Landscaping and Groundskeeping Workers. (37-3011).

Illustrative Examples: Curb Builder; Concrete Floor Installer

47-2052 Segmental Pavers

Lay out, cut, and paste segmental paving units. Include installers of bedding and restraining materials for the paving units.

Illustrative Examples: Concrete Paver Installer; Interlocking Concrete Pavement Installer

47-2061 Construction Laborers

Perform tasks involving physical labor at building, highway, and heavy construction projects, tunnel and shaft excavations, and demolition sites. May operate hand and power tools of all types: air hammers, earth tampers, cement mixers, small mechanical hoists, surveying and measuring equipment, and a variety of other equipment and instruments. May clean and prepare sites, dig trenches, set braces to support the sides of excavations, erect scaffolding, clean up rubble and debris, and remove asbestos, lead, and other hazardous waste materials. May assist other craft workers. Exclude construction laborers who primarily assist a particular craft worker, and classify them under "Helpers, Construction Trades" (47-3011 through 47-3016).

Illustrative Examples: Air Hammer Operator; Asphalt Patcher; Construction Craft Laborer

47-2071 Paving, Surfacing, and Tamping Equipment Operators

Operate equipment used for applying concrete, asphalt, or other materials to roadbeds, parking lots, or airport runways and taxiways, or equipment used for tamping gravel, dirt, or other materials. Include concrete and asphalt paving machine operators, form tampers, tamping machine operators, and stone spreader operators.

Illustrative Examples: Asphalt Spreader Operator; Black Top Machine Operator; Road Grader

47-2072 Pile-Driver Operators

Operate pile drivers mounted on skids, barges, crawler treads, or locomotive cranes to drive pilings for retaining walls, bulkheads, and foundations of structures, such as buildings, bridges, and piers.

Illustrative Examples: Nozzle Operator; Pile Driver Engineer

47-2073 Operating Engineers and Other Construction Equipment Operators

Operate one or several types of power construction equipment, such as motor graders, bulldozers, scrapers, compressors, pumps, derricks, shovels, tractors, or front-end loaders to excavate, move, and grade earth, erect structures, or pour concrete or other hard surface pavement. May repair and maintain equipment in addition to other duties. Exclude "Crane and Tower Operators" (53-7021) and equipment operators who work in extraction or other non-construction industries.

Illustrative Examples: Bulldozer Operator; Power Grader Operator; Steam Shovel Operator

47-2081 Drywall and Ceiling Tile Installers

Apply plasterboard or other wallboard to ceilings or interior walls of buildings. Apply or mount acoustical tiles or blocks, strips, or sheets of shock-absorbing materials to ceilings and walls of buildings to reduce or reflect sound. Materials may be of decorative quality. Include lathers who fasten wooden, metal, or rockboard lath to walls, ceilings or partitions of buildings to provide support base for plaster, fireproofing, or acoustical material. Exclude "Carpenters" (47-2031), and "Tile and Marble Setters" (47-2044).

Illustrative Examples: Acoustical Carpenter; Lather; Sheet Rock Hanger

47-2082 Tapers

Seal joints between plasterboard or other wallboard to prepare wall surface for painting or papering.

Illustrative Examples: Sheet Rock Taper; Wall Taper

47-2111 Electricians

Install, maintain, and repair electrical wiring, equipment, and fixtures. Ensure that work is in accordance with relevant codes. May install or service streetlights, intercom systems, or electrical control systems. Exclude "Security and Fire Alarm Systems Installers" (49-2098).

Illustrative Examples: Electrical Sign Servicer; House Wire; Chief Electrician

47-2121 Glaziers

Install glass in windows, skylights, storefronts, and display cases, or on surfaces, such as building fronts, interior walls, ceilings, and tabletops.

Illustrative Examples: Window Glass Installer; Plate Glass Installer; Stained Glass Glazier

47-2130 Insulation Workers

This broad occupation includes the following two detailed occupations:

47-2131 Insulation Workers, Floor, Ceiling, and Wall:

Line and cover structures with insulating materials. May work with batt, roll, or blown insulation materials.

47-2132 Insulation Workers, Mechanical:

Apply insulating materials to pipes or ductwork, or other mechanical systems in order to help control and maintain temperature.

Illustrative Examples: Fiberglass Insulation Installer; Composition Weatherboard Installer; Boiler Coverer; Pipe Coverer

47-2141 Painters, Construction and Maintenance

Paint walls, equipment, buildings, bridges, and other structural surfaces, using brushes, rollers, and spray guns. May remove old paint to prepare surface prior to painting. May mix colors or oils to obtain desired color or consistency. Exclude "Paperhangers" (47-2142).

Illustrative Examples: Bridge Painter; Traffic Line Painter; House Painter

47-2142 Paperhangers

Cover interior walls and ceilings of rooms with decorative wallpaper or fabric, or attach advertising posters on surfaces, such as walls and billboards. Duties include removing old materials from surface to be papered.

Illustrative Examples: Billboard Poster; Wallpaperer

47-2151 Pipelayers

Lay pipe for storm or sanitation sewers, drains, and water mains. Perform any combination of the following tasks: grade trenches or culverts, position pipe, or seal joints. Exclude "Welders, Cutters, Solderers, and Brazers" (51-4121).

Illustrative Examples: Trench Pipe Layer; Pipe Liner; Sewer Connector

47-2152 Plumbers, Pipefitters, and Steamfitters

Assemble, install, alter, and repair pipelines or pipe systems that carry water, steam, air, or other liquids or gases. May install heating and cooling equipment and mechanical control systems.

Illustrative Examples: Gas Line Installer; Hot Water Heater Installer; Sprinkling System Installer

47-2161 Plasterers and Stucco Masons

Apply interior or exterior plaster, cement, stucco, or similar materials. May also set ornamental plaster.

Illustrative Examples: Dry Plasterer; Stucco Worker; Ornamental Plasterer

47-2171 Reinforcing Iron and Rebar Workers

Position and secure steel bars or mesh in concrete forms in order to reinforce concrete. Use a variety of fasteners, rod-bending machines, blowtorches, and hand tools. Include rod busters.

Illustrative Examples: Reinforcing Rod Layer; Rod Buster; Steel Tier

47-2181 Roofers

Cover roofs of structures with shingles, slate, asphalt, aluminum, wood, and related materials. May spray roofs, sidings, and walls with material to bind, seal, insulate, or soundproof sections of structures.

Illustrative Examples: Slater; Hot Tar Roofer; Terra Cotta Roofer

47-2211 Sheet Metal Workers

Fabricate, assemble, install, and repair sheet metal products and equipment, such as ducts, control boxes, drainpipes, and furnace casings. Work may involve any of the following: setting up and operating fabricating machines to cut, bend, and straighten sheet metal; shaping metal over anvils, blocks, or forms using hammer; operating soldering and welding equipment to join sheet metal parts; inspecting, assembling, and smoothing seams and joints of burred surfaces. Include sheet metal duct installers who install prefabricated sheet metal ducts used for heating, air conditioning, or other purposes.

Illustrative Examples: Duct Installer, Metal Work; Tinsmith

47-2221 Structural Iron and Steel Workers

Raise, place, and unite iron or steel girders, columns, and other structural members to form completed structures or structural frameworks. May erect metal storage tanks and assemble prefabricated metal buildings. Exclude "Reinforcing Iron and Rebar Workers" (47-2171).

Illustrative Examples: Bolter; Guard Rail Installer; Construction Ironworker

47-3011 Helpers—Brickmasons, Blockmasons, Stonemasons, and Tile and Marble Setters

Help brickmasons, blockmasons, stonemasons, or tile

and marble setters by performing duties of lesser skill. Duties include using, supplying or holding materials or tools, and cleaning work area and equipment. Exclude apprentice workers and report them with the appropriate skilled construction trade occupation (47-2011 through 47-2221). Exclude construction laborers who do not primarily assist brickmasons, blockmasons, and stonemasons or tile and marble setters, and classify them under "Construction Laborers" (47-2061).

Illustrative Examples: Brick Carrier; Brick Washer; Tile Layers Helper

47-3012 Helpers—Carpenters

Help carpenters by performing duties of lesser skill. Duties include using, supplying or holding materials or tools, and cleaning work area and equipment. Exclude apprentice workers and report them with the appropriate skilled construction trade occupation (47-2011 through 47-2221). Exclude construction laborers who do not primarily assist carpenters, and classify them under "Construction Laborers" (47-2061).

Illustrative Examples: Carpenter's Mate; Joiner's Helper; Cabinetmakers Helper

47-3013 Helpers—Electricians

Help electricians by performing duties of lesser skill. Duties include using, supplying or holding materials or tools, and cleaning work area and equipment. Exclude apprentice workers and report them with the appropriate skilled construction trade occupation (47-2011 through 47-2221). Exclude construction laborers who do not primarily assist electricians, and classify them under "Construction Laborers" (47-2061).

Illustrative Examples: Utilities Ground Worker; Electrician's Assistant

47-3014 Helpers—Painters, Paperhangers, Plasterers, and Stucco Masons

Help painters, paperhangers, plasterers, or stucco masons by performing duties of lesser skill. Duties include using, supplying or holding materials or tools, and cleaning work area and equipment. Exclude apprentice workers and report them with the appropriate skilled construction trade occupation (47-2011 through 47-2221). Exclude construction laborers who do not primarily assist painters, paperhangers, plasterers, or stucco masons, and classify them under "Construction Laborers" (47-2061).

Illustrative Example: Plaster Tender

47-3015 Helpers—Pipelayers, Plumbers, Pipefitters, and Steamfitters

Help plumbers, pipefitters, steamfitters, or pipelayers by performing duties of lesser skill. Duties include using, supplying or holding materials or tools, and cleaning work area and equipment. Exclude apprentice workers and report them with the appropriate skilled construction trade occupation (47-2011 through 47-2221). Exclude construction laborers who do not primarily assist plumbers, pipefitters, steamfitters, or pipelayers, and classify them under "Construction Laborers" (47-2061).

Illustrative Examples: Pipe Cutter; Plumbers Assistant; Water Main Installers Helper

47-3016 Helpers—Roofers

Help roofers by performing duties of lesser skill. Duties include using, supplying or holding materials or tools, and cleaning work area and equipment. Exclude apprentice workers and report them with the appropriate skilled construction trade occupation (47-2011 through 47-2221). Exclude construction laborers who do not primarily assist roofers, and classify them under "Construction Laborers" (47-2061).

Illustrative Example: Roofer's Assistant

47-3019 Helpers, Construction Trades, All Other

All construction trades helpers not listed separately.

Illustrative Examples: Cement Mixer; Glazier's Helper; Surveyor Helper

47-4011 Construction and Building Inspectors

Inspect structures using engineering skills to determine structural soundness and compliance with specifications, building codes, and other regulations. Inspections may be general in nature or may be limited to a specific area, such as electrical systems or plumbing.

Illustrative Examples: Highway Inspector; Electrical Inspector; Architectural Inspector

47-4021 Elevator Installers and Repairers

Assemble, install, repair, or maintain electric or hydraulic freight or passenger elevators, escalators, or dumbwaiters.

Illustrative Examples: Escalator Installer; Elevator Mechanic; Hydraulic Elevator Constructor

47-4031 Fence Erectors

Erect and repair metal and wooden fences and fence gates around highways, industrial establishments, residences, or farms, using hand and power tools.

Illustrative Examples: Wire Fence Builder; Wood Fence Installer

47-4041 Hazardous Materials Removal Workers

Identify, remove, pack, transport, or dispose of hazardous materials, including asbestos, lead-based paint, waste oil, fuel, transmission fluid, radioactive materials, contaminated soil, etc. Specialized training and certification in hazardous materials handling or a confined entry permit are generally required. May operate earth-moving equipment or trucks.

Illustrative Examples: Asbestos Remover; Irradiated Fuel Handler; Hazardous Waste Remover

47-4051 Highway Maintenance Workers

Maintain highways, municipal and rural roads, airport runways, and rights-of-way. Duties include patching broken or eroded pavement, repairing guard rails, highway markers, and snow fences. May also mow or clear brush from along road or plow snow from roadway. Exclude "Tree Trimmers and Pruners" (37-3013).

Illustrative Examples: Snow Plow Operator; Road Patcher; Road Sign Installer

47-4061 Rail-Track Laying and Maintenance Equipment Operators

Lay, repair, and maintain track for standard or narrow-gauge railroad equipment used in regular railroad service or in plant yards, quarries, sand and gravel pits, and mines. Include ballast cleaning machine operators and roadbed tamping machine operators.

Illustrative Examples: Ballast Cleaning Machine Operator; Track Surfacing Machine Operator; Track Dresser

47-4071 Septic Tank Servicers and Sewer Pipe Cleaners

Clean and repair septic tanks, sewer lines, or drains. May patch walls and partitions of tank, replace damaged drain tile, or repair breaks in underground piping.

Illustrative Examples: Sewage Screen Operator; Septic Tank Cleaner; Electric Sewer Cleaning Machine Operator

47-4999 Construction Trades and Related Workers, All Other

All construction and related workers not listed separately.

Illustrative Examples: Aluminum Pool Installer; Building Wrecker; Waterproofer

47-5011 Derrick Operators, Oil and Gas

Rig derrick equipment and operate pumps to circulate mud through drill hole.

Illustrative Examples: Rotary Derrick Operator; Well Service Derrick Worker

47-5012 Rotary Drill Operators, Oil and Gas

Set up or operate a variety of drills to remove petroleum products from the earth and to find and remove core samples for testing during oil and gas exploration.

Illustrative Examples: Cable Tool Operator; Core Driller; Well Driller

47-5013 Service Unit Operators, Oil, Gas, and Mining

Operate equipment to increase oil flow from producing wells or to remove stuck pipe, casing, tools, or other obstructions from drilling wells. May also perform similar services in mining exploration operations. Include fishing-tool technicians.

Illustrative Examples: Fishing Tool Operator; Well Cleaner

47-5021 Earth Drillers, Except Oil and Gas

Operate a variety of drills—such as rotary, churn, and pneumatic—to tap sub-surface water and salt deposits, to remove core samples during mineral exploration or soil testing, and to facilitate the use of explosives in mining or construction. May use explosives. Include horizontal and earth boring machine operators.

Illustrative Examples: Auger Operator; Earth Boring Machine Operator; Tunneling Machine Operator

47-5031 Explosives Workers, Ordnance Handling Experts, and Blasters

Place and detonate explosives to demolish structures or to loosen, remove, or displace earth, rock, or other materials. May perform specialized handling, storage, and accounting procedures. Include seismograph shooters. Exclude “Earth Drillers, Except Oil and Gas” (47-5021) who may also work with explosives.

Illustrative Examples: Dynamiter; Explosives Expert; Blast Setter

47-5041 Continuous Mining Machine Operators

Operate self-propelled mining machines that rip coal, metal and nonmetal ores, rock, stone, or sand from the face and load it onto conveyors or into shuttle cars in a continuous operation.

47-5042 Mine Cutting and Channeling Machine Operators

Operate machinery—such as longwall shears, plows, and cutting machines—to cut or channel along the face or seams of coal mines, stone quarries, or other mining

surfaces to facilitate blasting, separating, or removing minerals or materials from mines or from the earth’s surface. Include shale planers.

Illustrative Examples: Coal Cutter; Long Wall Mining Machine Tender; Shale Planer Operator

47-5049 Mining Machine Operators, All Other

All mining machine operators not listed separately.

Illustrative Examples: Extraction Machine Operator; Hydraulic Operator; Rock Duster

47-5051 Rock Splitters, Quarry

Separate blocks of rough dimension stone from quarry mass using jackhammer and wedges.

Illustrative Examples: Quarry Plug and Feather Driller; Rock Breaker

47-5061 Roof Bolters, Mining

Operate machinery to install roof support bolts in underground mine.

47-5071 Roustabouts, Oil and Gas

Assemble or repair oil field equipment using hand and power tools. Perform other tasks as needed.

Illustrative Examples: Connection Worker; Oil Field Laborer

47-5081 Helpers—Extraction Workers

Help extraction craft workers, such as earth drillers, blasters and explosives workers, derrick operators, and mining machine operators, by performing duties of lesser skill. Duties include supplying equipment or cleaning work area. Exclude apprentice workers and report them with the appropriate extraction trade occupation (47-5011 through 47-5099).

Illustrative Examples: Blasters Helper; Tunnel Mucker; Mining Helper

47-5099 Extraction Workers, All Other

All extraction workers not listed separately.

Illustrative Examples: Chute Operator; Coal Digger; Sandfill Operator

Installation, Maintenance, and Repair Occupations

49-1011 First-Line Supervisors/Managers of Mechanics, Installers, and Repairers

Supervise and coordinate the activities of mechanics, installers, and repairers. Exclude team or work leaders.

Illustrative Examples: Marine Service Manager; Ground Crew Chief; Engine Repair Supervisor

49-2011 Computer, Automated Teller, and Office Machine Repairers

Repair, maintain, or install computers, word processing systems, automated teller machines, and electronic office machines, such as duplicating and fax machines.

Illustrative Examples: ATM Specialist; Cash Register Servicer; Computer Installer

49-2021 Radio Mechanics

Test or repair mobile or stationary radio transmitting and receiving equipment and two-way radio communications systems used in ship-to-shore communications and found in service and emergency vehicles.

Illustrative Examples: Radio Electrician; Radio Rigger

49-2022 Telecommunications Equipment Installers and Repairers, Except Line Installers

Set-up, rearrange, or remove switching and dialing equipment used in central offices. Service or repair telephones and other communication equipment on customers' property. May install equipment in new locations or install wiring and telephone jacks in buildings under construction.

Illustrative Examples: Central Office Equipment Installer; Electronics Installer; Exchange Mechanic

49-2091 Avionics Technicians

Install, inspect, test, adjust, or repair avionics equipment, such as radar, radio, navigation, and missile control systems in aircraft or space vehicles.

Illustrative Examples: Aircraft Electrician; Automatic Pilot Mechanic; Missile Facilities Repairer

49-2092 Electric Motor, Power Tool, and Related Repairers

Repair, maintain, or install electric motors, wiring, or switches.

Illustrative Examples: Armature Winder; Generator Mechanic; Electric Golf Cart Repairer

49-2093 Electrical and Electronics Installers and Repairers, Transportation Equipment

Install, adjust, or maintain mobile electronics communication equipment, including sound, sonar, security, navigation, and surveillance systems on trains, watercraft, or other mobile equipment. Exclude "Avionics Technicians" (49-2091) and "Electronic Equipment Installers and Repairers, Motor Vehicles" (49-2096).

Illustrative Example: Locomotive Electrician

49-2094 Electrical and Electronics Repairers, Commercial and Industrial Equipment

Repair, test, adjust, or install electronic equipment, such as industrial controls, transmitters, and antennas. Exclude "Avionics Technicians" (49-2091), "Electronic Equipment Installers and Repairers, Motor Vehicles" (49-2096), and "Electrical and Electronics Installers and Repairers, Transportation Equipment" (49-2093).

Illustrative Examples: Missile Pad Mechanic; Radar Technician; Amplifier Mechanic

49-2095 Electrical and Electronics Repairers, Powerhouse, Substation, and Relay

Inspect, test, repair, or maintain electrical equipment in generating stations, substations, and in-service relays.

Illustrative Examples: Powerhouse Electrician; Relay Technician; Power Transformer Repairer

49-2096 Electronic Equipment Installers and Repairers, Motor Vehicles

Install, diagnose, or repair communications, sound, security, or navigation equipment in motor vehicles.

Illustrative Examples: Auto Phone Installer; Automotive Electrician

49-2097 Electronic Home Entertainment Equipment Installers and Repairers

Repair, adjust, or install audio or television receivers, stereo systems, camcorders, video systems, or other electronic home entertainment equipment.

Illustrative Examples: Electric Organ Technician; Television Mechanic; Satellite Dish Installer

49-2098 Security and Fire Alarm Systems Installers

Install, program, maintain, and repair security and fire alarm wiring and equipment. Ensure that work is in accordance with relevant codes. Exclude "Electricians" (47-2111) who do a broad range of electrical wiring.

Illustrative Examples: Fire Alarm Installer; Burglar Alarm Mechanic

49-2099 Electrical and Electronic Equipment Mechanics, Installers, and Repairers, All Other

49-3011 Aircraft Mechanics and Service Technicians

49-3012 Aircraft Mechanics and Service Technicians, FAA certified

Diagnose, adjust, repair, or overhaul aircraft engines and assemblies, such as hydraulic and pneumatic systems. FAA certification required. Include FAA certified helicopter and aircraft engine specialists.

49-3013 Aircraft Mechanics and Service Technicians, not FAA certified

Diagnose, adjust, repair, or overhaul aircraft engines and assemblies, such as hydraulic and pneumatic systems. Include helicopter and aircraft engine specialists.

49-3021 Automotive Body and Related Repairers

Repair and refinish automotive vehicle bodies and straighten vehicle frames. Exclude “Painters, Transportation Equipment” (51-9122) and “Automotive Glass Installers and Repairers” (49-3022).

Illustrative Examples: Auto Body Customizer; Collision Mechanic; Frame Straightener

49-3022 Automotive Glass Installers and Repairers

Replace or repair broken windshields and window glass in motor vehicles.

Illustrative Examples: Auto Glass Mechanic; Windshield Installer; Auto Glass Fitter

49-3023 Automotive Service Technicians and Mechanics

Diagnose, adjust, repair, or overhaul automotive vehicles. Exclude “Automotive Body and Related Repairers” (49-3021), “Bus and Truck Mechanics and Diesel Engine Specialists” (49-3031), and “Electronic Equipment Installers and Repairers, Motor Vehicles” (49-2096).

Illustrative Examples: Auto Brake Mechanic; Fuel Injection Servicer; Auto Transmission Specialist

49-3031 Bus and Truck Mechanics and Diesel Engine Specialists

Diagnose, adjust, repair, or overhaul trucks, buses, and all types of diesel engines. Include mechanics working primarily with automobile diesel engines.

Illustrative Examples: Tractor Trailer Mechanic; Diesel Mechanic; Farm Equipment Engine Mechanic

49-3041 Farm Equipment Mechanics

Diagnose, adjust, repair, or overhaul farm machinery and vehicles, such as tractors, harvesters, dairy equipment, and irrigation systems. Exclude “Bus and Truck Mechanics and Diesel Engine Specialists” (49-3031).

Illustrative Examples: Irrigation Equipment Mechanic; Dairy Equipment Installer

49-3042 Mobile Heavy Equipment Mechanics, Except Engines

Diagnose, adjust, repair, or overhaul mobile mechanical, hydraulic, and pneumatic equipment, such as cranes, bulldozers, graders, and conveyors, used in construction, logging, and surface mining. Exclude “Rail Car Re-

pairers” (49-3043) and “Bus and Truck Mechanics and Diesel Engine Specialists” (49-3031).

Illustrative Examples: Construction Equipment Mechanic; Fork Lift Mechanic; Bulldozer Mechanic

49-3043 Rail Car Repairers

Diagnose, adjust, repair, or overhaul railroad rolling stock, mine cars, or mass transit rail cars. Exclude “Bus and Truck Mechanics and Diesel Engine Specialists” (49-3031).

Illustrative Examples: Streetcar Repairer; Mine Car Mechanic

49-3051 Motorboat Mechanics

Repair and adjust electrical and mechanical equipment of gasoline or diesel powered inboard or inboard-outboard boat engines. Exclude “Diesel Engine Specialists” (49-3031).

Illustrative Example: Outboard Motor Mechanic

49-3052 Motorcycle Mechanics

Diagnose, adjust, repair, or overhaul motorcycles, scooters, mopeds, dirt bikes, or similar motorized vehicles.

Illustrative Examples: Motor Scooter Mechanic; Motorcycle Repairer

49-3053 Outdoor Power Equipment and Other Small Engine Mechanics

Diagnose, adjust, repair, or overhaul small engines used to power lawn mowers, chain saws, and related equipment.

Illustrative Examples: Chainsaw Mechanic; Lawn Mower Repairer; Snowmobile Mechanic

49-3091 Bicycle Repairers

Repair and service bicycles.

Illustrative Example: Bicycle Mechanic

49-3092 Recreational Vehicle Service Technicians

Diagnose, inspect, adjust, repair, or overhaul recreational vehicles including travel trailers. May specialize in maintaining gas, electrical, hydraulic, plumbing, or chassis/towing systems as well as repairing generators, appliances, and interior components. Include workers who perform customized van conversions. Exclude “Automotive Service Technicians and Mechanics” (49-3023) and “Bus and Truck Mechanics and Diesel Engine Specialists” (49-3031) who also work on recreation vehicles.

Illustrative Example: RV Mechanic

49-3093 Tire Repairers and Changers

Repair and replace tires.

Illustrative Examples: Tire Balancer; Tire Fixer

49-3099 Vehicle and Mobile Equipment Mechanics, Installers, and Repairers, All Other

49-9011 Mechanical Door Repairers

Install, service, or repair opening and closing mechanisms of automatic doors and hydraulic door closers. Include garage door mechanics.

Illustrative Example: Automatic Door Mechanic

49-9012 Control and Valve Installers and Repairers, Except Mechanical Door

Install, repair, and maintain mechanical regulating and controlling devices, such as electric meters, gas regulators, thermostats, safety and flow valves, and other mechanical governors.

Illustrative Examples: Electric Meter Installer; Gas Meter Prover; Thermostat Repairer

49-9021 Heating, Air Conditioning, and Refrigeration Mechanics and Installers

Install or repair heating, central air conditioning, or refrigeration systems, including oil burners, hot-air furnaces, and heating stoves.

Illustrative Examples: Furnace Converter; Gas Furnace Installer; Oil Burner Repairer

49-9031 Home Appliance Repairers

Repair, adjust, or install all types of electric or gas household appliances, such as refrigerators, washers, dryers, and ovens.

Illustrative Examples: Window Air Conditioner Mechanic; Vacuum Cleaner Repairer; Washing Machine Installer

49-9041 Industrial Machinery Mechanics

Repair, install, adjust, or maintain industrial production and processing machinery or refinery and pipeline distribution systems. Exclude "Millwrights" (49-9044), "Mobile Heavy Equipment Mechanics, Except Engines" (49-3042), and "Maintenance Workers, Machinery" (49-9043) who perform only routine tasks.

Illustrative Examples: Conveyor Belt Installer; Turbine Mechanic; Hydroelectric Machinery Mechanic

49-9042 Maintenance and Repair Workers, General

Perform work involving the skills of two or more maintenance or craft occupations to keep machines, mechanical equipment, or the structure of an establishment in repair. Duties may involve pipe fitting; boiler making; insulating; welding; machining; carpentry; repairing electrical or mechanical equipment; installing, aligning, and balancing new equipment; and repairing buildings, floors,

or stairs. Exclude "Maintenance Workers, Machinery" (49-9043).

Illustrative Examples: Building Maintenance Repairer; Trouble Shooting Mechanic; Mechanical Adjuster

49-9043 Maintenance Workers, Machinery

Lubricate machinery, change parts, or perform other routine machinery maintenance. Exclude "Maintenance and Repair Workers, General" (49-9042).

Illustrative Examples: Belt Repairer; Grease Packer Machine Oiler

49-9044 Millwrights

Install, dismantle, or move machinery and heavy equipment according to layout plans, blueprints, or other drawings.

Illustrative Examples: Machine Erector; Machine Rigger; Machinery Dismantler

49-9045 Refractory Materials Repairers, Except Brickmasons

Build or repair furnaces, kilns, cupolas, boilers, converters, ladles, soaking pits, ovens, etc., using refractory materials.

Illustrative Examples: Bondactor Machine Operator; Kiln Door Repairer

49-9051 Electrical Power-Line Installers and Repairers

Install or repair cables or wires used in electrical power or distribution systems. May erect poles and light or heavy-duty transmission towers. Exclude "Electrical and Electronics Repairers, Powerhouse, Substation, and Relay" (49-2095).

Illustrative Examples: Pole Climber; High Tension Tester; Electric Utility Wire Stretcher

49-9052 Telecommunications Line Installers and Repairers

String and repair telephone and television cable, including fiber optics and other equipment for transmitting messages or television programming.

Illustrative Examples: Telecommunications Cable Splicer; Telecommunications Wire Stretcher; Cable Television Installer

49-9061 Camera and Photographic Equipment Repairers

Repair and adjust cameras and photographic equipment, including commercial video and motion picture camera equipment.

Illustrative Examples: Camera Machinist; Photographic Equipment Technician

49-9062 Medical Equipment Repairers

Test, adjust, or repair biomedical or electromedical equipment.

Illustrative Examples: Biomedical Equipment Technician; Hearing Aid Mechanic; Surgical Instrument Mechanic

49-9063 Musical Instrument Repairers and Tuners

Repair percussion, stringed, reed, or wind instruments. May specialize in one area, such as piano tuning. Exclude "Electronic Home Entertainment Equipment Installers and Repairers" (49-2097) who repair electrical and electronic musical instruments.

Illustrative Examples: Piano Tuner; Violin Repairer; Tone Regulator

49-9064 Watch Repairers

Repair, clean, and adjust mechanisms of timing instruments, such as watches and clocks. Include watchmakers.

Illustrative Examples: Watch and Clock Crowner; Horologist; Watchmaker

49-9069 Precision Instrument and Equipment Repairers, All Other

All precision instrument and equipment repairers not listed separately.

Illustrative Examples: Laboratory Equipment Installer; Gyro Mechanic; Meteorological Equipment Repairer

49-9091 Coin, Vending, and Amusement Machine Servicers and Repairers

Install, service, adjust, or repair coin, vending, or amusement machines including video games, jukeboxes, pinball machines, or slot machines.

Illustrative Examples: Cigarette Machine Mechanic; Slot Machine Mechanic; Video Game Mechanic

49-9092 Commercial Divers

Work below surface of water, using scuba gear to inspect, repair, remove, or install equipment and structures. May use a variety of power and hand tools, such as drills, sledgehammers, torches, and welding equipment. May conduct tests or experiments, rig explosives, or photograph structures or marine life. Exclude "Fishers and Related Fishing Workers" (45-3011), "Athletes and Sports Competitors" (27-2021), and "Police and Sheriff's Patrol Officers" (33-3051).

Illustrative Examples: Marine Diver; Scuba Diver; Skin Diver

49-9093 Fabric Menders, Except Garment

Repair tears, holes, and other defects in fabrics, such as draperies, linens, parachutes, and tents.

Illustrative Examples: Canvas Repairer; Bag Repairer; Seat Mender

49-9094 Locksmiths and Safe Repairers

Repair and open locks; make keys; change locks and safe combinations; and install and repair safes.

Illustrative Examples: Key Maker; Vault Service Mechanic; Lock Expert

49-9095 Manufactured Building and Mobile Home Installers

Move or install mobile homes or prefabricated buildings.

Illustrative Examples: Mobile Home Mechanic; Housetrailer Servicer

49-9096 Riggers

Set up or repair rigging for construction projects, manufacturing plants, logging yards, ships and shipyards, or for the entertainment industry.

Illustrative Examples: Acrobatic Rigger; Rigging Slinger; Yard Rigger

49-9097 Signal and Track Switch Repairers

Install, inspect, test, maintain, or repair electric gate crossings, signals, signal equipment, track switches, section lines, or intercommunications systems within a railroad system.

Illustrative Examples: Signal Mechanic; Signal Maintainer; Third Rail Installer

49-9098 Helpers—Installation, Maintenance, and Repair Workers

Help installation, maintenance, and repair workers in maintenance, parts replacement, and repair of vehicles, industrial machinery, and electrical and electronic equipment. Perform duties, such as furnishing tools, materials, and supplies to other workers; cleaning work area, machines, and tools; and holding materials or tools for other workers.

Illustrative Examples: Mechanic's Helper; Diver's Helper; Blacksmith's Helper

49-9099 Installation, Maintenance, and Repair Workers, All Other

All mechanical, installation, and repair workers and helpers not listed separately.

Illustrative Examples: Blacksmith; Cooper; Gunsmith

Production Occupations

51-1011 First-Line Supervisors/Managers of Production and Operating Workers

Supervise and coordinate the activities of production and operating workers, such as inspectors, precision workers, machine setters and operators, assemblers, fabricators, and plant and system operators. Exclude team or work leaders.

Illustrative Examples: Laundromat Manager; Station Chief; Assembly Line Supervisor

51-2011 Aircraft Structure, Surfaces, Rigging, and Systems Assemblers

Assemble, fit, fasten, and install parts of airplanes, space vehicles, or missiles, such as tails, wings, fuselage, bulkheads, stabilizers, landing gear, rigging and control equipment, or heating and ventilating systems.

Illustrative Examples: Aircraft Riveter; Fuselage Framer; Skin Installer

51-2021 Coil Winders, Tapers, and Finishers

Wind wire coils used in electrical components, such as resistors and transformers, and in electrical equipment and instruments, such as field cores, bobbins, armature cores, electrical motors, generators, and control equipment.

Illustrative Examples: Coil Builder; Motor Winder; Wire Coiler

51-2022 Electrical and Electronic Equipment Assemblers

Assemble or modify electrical or electronic equipment, such as computers, test equipment telemetering systems, electric motors, and batteries.

Illustrative Examples: Anode Builder; Battery Builder; Industrial Equipment Wirer

51-2023 Electromechanical Equipment Assemblers

Assemble or modify electromechanical equipment or devices, such as servomechanisms, gyros, dynamometers, magnetic drums, tape drives, brakes, control linkage, actuators, and appliances.

Illustrative Examples: Appliance Assembler; Vending Machine Assembler

51-2031 Engine and Other Machine Assemblers

Construct, assemble, or rebuild machines, such as engines, turbines, and similar equipment used in such industries as construction, extraction, textiles, and paper manufacturing.

Illustrative Examples: Machine Builder; Motor Installer; Turbine Assembler

51-2041 Structural Metal Fabricators and Fitters

Fabricate, lay out, position, align, and fit parts of structural metal products.

Illustrative Examples: Manufacturing Ornamental Metal Worker; Metal Box Maker; Protector Plate Attacher

51-2091 Fiberglass Laminators and Fabricators

Laminate layers of fiberglass on molds to form boat decks and hulls, bodies for golf carts, automobiles, or other products.

Illustrative Examples: Fiberglass Ski Maker; Fiberglass Boat Builder; Golf Cart Maker

51-2092 Team Assemblers

Work as part of a team having responsibility for assembling an entire product or component of a product. Team assemblers can perform all tasks conducted by the team in the assembly process and rotate through all or most of them rather than being assigned to a specific task on a permanent basis. May participate in making management decisions affecting the work. Team leaders who work as part of the team should be included. Exclude assemblers (51-2011 through 51-2099) who continuously perform the same task.

51-2093 Timing Device Assemblers, Adjusters, and Calibrators

Perform precision assembling or adjusting, within narrow tolerances, of timing devices, such as watches, clocks, or chronometers. Exclude "Watch Repairers" (49-9064).

Illustrative Examples: Chronometer Assembler; Hair Spring Truer; Escapement Matcher

51-2099 Assemblers and Fabricators, All Other

All assemblers and fabricators not listed separately.

Illustrative Examples: Barrel Raiser; Automobile Assembler, except engines; Doll Maker

51-3011 Bakers

Mix and bake ingredients according to recipes to produce breads, rolls, cookies, cakes, pies, pastries, or other baked goods. Include pastry chefs in restaurants and hotels with "Chefs and Head Cooks" (35-1011).

Illustrative Examples: Cake Maker; Head Baker; Pastry Finisher

51-3021 Butchers and Meat Cutters

Cut, trim, or prepare consumer-sized portions of meat for use or sale in retail establishments.

Illustrative Examples: Carver; Meat Department Manager; Cleaver

51-3022 Meat, Poultry, and Fish Cutters and Trimmers

Use hand tools to perform routine cutting and trimming of meat, poultry, and fish.

Illustrative Examples: Calf Skinner; Eviscerator; Filleter

51-3023 Slaughterers and Meat Packers

Work in slaughtering, meat packing, or wholesale establishments performing precision functions involving the preparation of meat. Work may include specialized slaughtering tasks, cutting standard or premium cuts of meat for marketing, making sausage, or wrapping meats. Exclude "Meat, Poultry, and Fish Cutters and Trimmers" (51-3022) who perform routine, lower-skilled meat cutting.

Illustrative Examples: Hog Sticker; Shactor; Beef Splitter

51-3091 Food and Tobacco Roasting, Baking, and Drying Machine Operators and Tenders

Operate or tend food or tobacco roasting, baking, or drying equipment, including hearth ovens, kiln driers, roasters, char kilns, and vacuum drying equipment.

Illustrative Examples: Coffee Roaster; Smokehouse Worker; Curing Room Worker

51-3092 Food Batchmakers

Set up and operate equipment that mixes or blends ingredients used in the manufacturing of food products. Include candy makers and cheese makers.

Illustrative Examples: Candy Maker; Honey Blender; Peanut Butter Maker

51-3093 Food Cooking Machine Operators and Tenders

Operate or tend cooking equipment, such as steam cooking vats, deep fry cookers, pressure cookers, kettles, and boilers, to prepare food products. Exclude "Food and Tobacco Roasting, Baking, and Drying Machine Operators and Tenders" (51-3091).

Illustrative Examples: Doughnut Maker; Sausage Cooker; Potato Chip Fryer

51-3099 Food Processing Workers, All Other

51-4011 Computer-Controlled Machine Tool Operators, Metal and Plastic

Operate computer-controlled machines or robots to perform one or more machine functions on metal or plastic work pieces.

Illustrative Examples: Numerical Control Machine Operator; Robot Operator

51-4012 Numerical Tool and Process Control Programmers

Develop programs to control machining or processing of parts by automatic machine tools, equipment, or systems.

Illustrative Examples: Tool Programmer; NC Programmer

51-4021 Extruding and Drawing Machine Setters, Operators, and Tenders, Metal and Plastic

Set up, operate, or tend machines to extrude or draw thermoplastic or metal materials into tubes, rods, hoses, wire, bars, or structural shapes.

Illustrative Examples: Draw Bench Operator; Tube Drawer; Wire Drawing Setter

51-4022 Forging Machine Setters, Operators, and Tenders, Metal and Plastic

Set up, operate, or tend forging machines to taper, shape, or form metal or plastic parts.

Illustrative Examples: Cold Header Operator; Swager Operator; Drop Hammer Operator

51-4023 Rolling Machine Setters, Operators, and Tenders, Metal and Plastic

Set up, operate, or tend machines to roll steel or plastic forming bends, beads, knurls, rolls, or plate or to flatten, temper, or reduce gauge of material.

Illustrative Examples: Forming Roll Operator; Rolling Mill Operator; Tubing Machine Operator

51-4031 Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic

Set up, operate, or tend machines to saw, cut, shear, slit, punch, crimp, notch, bend, or straighten metal or plastic material.

Illustrative Examples: Perforator Operator; Crimping Machine Operator; Four Slide Machine Setter

51-4032 Drilling and Boring Machine Tool Setters, Operators, and Tenders, Metal and Plastic

Set up, operate, or tend drilling machines to drill, bore, ream, mill, or countersink metal or plastic work pieces.

Illustrative Examples: Drill Press Operator; Jewel Cupping Machine Operator; Reaming Press Operator

51-4033 Grinding, Lapping, Polishing, and Buffing Machine Tool Setters, Operators, and Tenders, Metal and Plastic

Set up, operate, or tend grinding and related tools that remove excess material or burrs from surfaces, sharpen

edges or corners, or buff, hone, or polish metal or plastic work pieces.

Illustrative Examples: Barrel Polisher; Jewel Bearing Facer; Metal Filer

51-4034 Lathe and Turning Machine Tool Setters, Operators, and Tenders, Metal and Plastic

Set up, operate, or tend lathe and turning machines to turn, bore, thread, form, or face metal or plastic materials, such as wire, rod, or bar stock.

Illustrative Examples: Gear Cutter; Screw Machine Operator; Threading Machine Setter

51-4035 Milling and Planing Machine Setters, Operators, and Tenders, Metal and Plastic

Set up, operate, or tend milling or planing machines to mill, plane, shape, groove, or profile metal or plastic work pieces.

Illustrative Examples: Broaching Machine Operator; Profiler Operator; Scribing Machine Operator

51-4041 Machinists

Set up and operate a variety of machine tools to produce precision parts and instruments. Include precision instrument makers who fabricate, modify, or repair mechanical instruments. May also fabricate and modify parts to make or repair machine tools or maintain industrial machines, applying knowledge of mechanics, shop mathematics, metal properties, layout, and machining procedures.

Illustrative Examples: Electrical Instrument Maker; Machine Fitter

51-4051 Metal-Refining Furnace Operators and Tenders

Operate or tend furnaces, such as gas, oil, coal, electric-arc or electric induction, open-hearth, or oxygen furnaces, to melt and refine metal before casting or to produce specified types of steel. Exclude "Heat Treating Equipment Setters, Operators, and Tenders, Metal and Plastic" (51-4191).

Illustrative Examples: Blast Furnace Blower; Bessemer Regulator; Smelter

51-4052 Pourers and Casters, Metal

Operate hand-controlled mechanisms to pour and regulate the flow of molten metal into molds to produce castings or ingots.

Illustrative Examples: Ingot Header; Ladle Operator; Steel Pourer

51-4061 Model Makers, Metal and Plastic

Set up and operate machines, such as lathes, milling and engraving machines, and jig borers to make working models of metal or plastic objects. Include template makers.

Illustrative Examples: Jig and Fixture Builder; Mandrel Maker; Mock Up Maker

51-4062 Patternmakers, Metal and Plastic

Lay out, machine, fit, and assemble castings and parts to metal or plastic foundry patterns, core boxes, or match plates.

Illustrative Examples: Pattern Fitter; Stencil Cutter

51-4071 Foundry Mold and Coremakers

Make or form wax or sand cores or molds used in the production of metal castings in foundries.

Illustrative Examples: Core Setter; Mold Closer; Dry Sand Molder

51-4072 Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders, Metal and Plastic

Set up, operate, or tend metal or plastic molding, casting, or coremaking machines to mold or cast metal or thermoplastic parts or products.

Illustrative Examples: Centrifugal Casting Machine Operator; Injection Molding Machine Setter; Core Moulder

51-4081 Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic

Set up, operate, or tend more than one type of cutting or forming machine tool or robot.

Illustrative Examples: Machine Tool Operator; Combination Machine Tool Setter; Metal and Plastic Transfer Machine Operator

51-4111 Tool and Die Makers

Analyze specifications, lay out metal stock, set up and operate machine tools, and fit and assemble parts to make and repair dies, cutting tools, jigs, fixtures, gauges, and machinists' hand tools.

Illustrative Examples: Die Sinker; Die Finisher; Sawsmith

51-4121 Welders, Cutters, Solderers, and Brazers

Use hand-welding, flame-cutting, hand soldering, or brazing equipment to weld or join metal components or to fill holes, indentations, or seams of fabricated metal products.

Illustrative Examples: Acetylene Burner; Arc Welder; Blow Torch Operator

51-4122 Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders

Set up, operate, or tend welding, soldering, or brazing machines or robots that weld, braze, solder, or heat treat metal products, components, or assemblies. Include workers who operate laser cutters or laser-beam machines.

Illustrative Examples: Electron Beam Welder Setter; Laser-Beam Machine Operator; Ultrasonic Welding Machine Operator

51-4191 Heat Treating Equipment Setters, Operators, and Tenders, Metal and Plastic

Set up, operate, or tend heating equipment, such as heat-treating furnaces, flame-hardening machines, induction machines, soaking pits, or vacuum equipment to temper, harden, anneal, or heat-treat metal or plastic objects.

Illustrative Examples: Metal & Plastic Annealer; Metal & Plastic Temperer; Induction Machine Setter

51-4192 Lay-Out Workers, Metal and Plastic

Lay out reference points and dimensions on metal or plastic stock or workpieces, such as sheets, plates, tubes, structural shapes, castings, or machine parts, for further processing. Include shipfitters.

Illustrative Examples: Pattern Setter; Location and Measurement Technician Shipfitter

51-4193 Plating and Coating Machine Setters, Operators, and Tenders, Metal and Plastic

Set up, operate, or tend plating or coating machines to coat metal or plastic products with chromium, zinc, copper, cadmium, nickel, or other metal to protect or decorate surfaces. Include electrolytic processes.

Illustrative Examples: Anodizer; Electroplater; Galvanizer

51-4194 Tool Grinders, Filers, and Sharpeners

Perform precision smoothing, sharpening, polishing, or grinding of metal objects.

Illustrative Examples: Die Polisher; Precision Honer; Tool Maintenance Worker

51-4199 Metal Workers and Plastic Workers, All Other

All metalworkers and plastic workers not listed separately.

Illustrative Examples: Balancing Machine Operator; Film Casting Operator; Nail Making Machine Setter

51-5011 Bindery Workers

Set up or operate binding machines that produce books and other printed materials. Include hand bindery workers. Exclude "Bookbinders" (51-5012).

Illustrative Examples: Book Coverer; Stitching Machine Operator; Bookbinding Machine Operator

51-5012 Bookbinders

Perform highly skilled hand finishing operations, such as grooving and lettering to bind books.

Illustrative Examples: Book Finisher; Book Mender

51-5021 Job Printers

Set type according to copy; operate press to print job order; and read proof for errors and clarity of impression, and correct imperfections. Job printers are often found in small establishments where work combines several job skills.

Illustrative Examples: Job Press Operator; Apprentice Job Printer

51-5022 Prepress Technicians and Workers

Set up and prepare material for printing presses. Include prepress functions, such as compositing, typesetting, layout, paste-up, camera operating, scanning, film stripping, and photoengraving.

Illustrative Examples: Compositor; Lithographer; Photoengraving Etcher

51-5023 Printing Machine Operators

Set up or operate various types of printing machines, such as offset, letterset, intaglio, or gravure presses or screen printers to produce print on paper or other materials.

Illustrative Examples: Bag Printer; Offset Press Operator; Lithoplate Maker

51-5099 Printing Workers, All Other

51-6011 Laundry and Dry-Cleaning Workers

Operate or tend washing or dry-cleaning machines to wash or dry-clean industrial or household articles, such as cloth garments, suede, leather, furs, blankets, draperies, fine linens, rugs, and carpets. Include spotters and dyers of these articles.

Illustrative Examples: Laundry Carpet Cleaner; Silk Spotter; Washing Machine Operator

51-6021 Pressers, Textile, Garment, and Related Materials

Press or shape articles by hand or machine.

Illustrative Examples: Clothes Ironer; Garment Steamer; Steam Operator

51-6031 Sewing Machine Operators

Operate or tend sewing machines to join, reinforce, decorate, or perform related sewing operations in the manufacture of garment or nongarment products.

Illustrative Examples: Blind Stitch Machine Operator; Loop Tacker; Hemmer

51-6041 Shoe and Leather Workers and Repairers

Construct, decorate, or repair leather and leather-like products, such as luggage, shoes, and saddles.

Illustrative Examples: Upper Cutter; Cobbler; Saddle Maker

51-6042 Shoe Machine Operators and Tenders

Operate or tend a variety of machines to join, decorate, reinforce, or finish shoes and shoe parts.

Illustrative Examples: Counter Maker; Lasting Machine Operator; Shoe Archer

51-6051 Sewers, Hand

Sew, join, reinforce, or finish, usually with needle and thread, a variety of manufactured items. Include weavers and stitchers. Exclude "Fabric Menders, Except Garment" (49-9093).

Illustrative Examples: Hand Stitcher; Hand Weaver; Hosiery Mender

51-6052 Tailors, Dressmakers, and Custom Sewers

Design, make, alter, repair, or fit garments.

Illustrative Examples: Coat Maker; Hand Finisher, Except Toys Shop Tailor

51-6061 Textile Bleaching and Dyeing Machine Operators and Tenders

Operate or tend machines to bleach, shrink, wash, dye, or finish textiles or synthetic or glass fibers.

Illustrative Examples: Bleach Range Operator; Rug Dyer; Skein Yarn Dyer

51-6062 Textile Cutting Machine Setters, Operators, and Tenders

Set up, operate, or tend machines that cut textiles.

Illustrative Examples: Canvas Cutter; Rag Shredder; Welt Trimming Machine Operator

51-6063 Textile Knitting and Weaving Machine Setters, Operators, and Tenders

Set up, operate, or tend machines that knit, loop, weave, or draw in textiles. Exclude "Sewing Machine Operators" (51-6031).

Illustrative Examples: Crochet Machine Operator; Ribbing Machine Operator; Looping Machine Operator

51-6064 Textile Winding, Twisting, and Drawing Out Machine Setters, Operators, and Tenders

Set up, operate, or tend machines that wind or twist textiles; or draw out and combine sliver, such as wool, hemp, or synthetic fibers. Include slubber machine and drawing frame operators.

Illustrative Examples: Beamer Operator; Bobbin Doffer; Frame Tender

51-6091 Extruding and Forming Machine Setters, Operators, and Tenders, Synthetic and Glass Fibers

Set up, operate, or tend machines that extrude and form continuous filaments from synthetic materials, such as liquid polymer, rayon, and fiberglass.

Illustrative Examples: Fiber Machine Tender; Box Spinner; Synthetic Filament Spinner

51-6092 Fabric and Apparel Patternmakers

Draw and construct sets of precision master fabric patterns or layouts. May also mark and cut fabrics and apparel.

Illustrative Examples: Pattern Grader; Shoe Patternmaker

51-6093 Upholsterers

Make, repair, or replace upholstery for household furniture or transportation vehicles.

Illustrative Examples: Car Seat Maker; Casket Coverer; Auto Top Mechanic

51-6099 Textile, Apparel, and Furnishings Workers, All Other

All textile, apparel, and furnishings workers not listed separately.

Illustrative Examples: Napper; Carding Machine Operator; Mercerizer

51-7011 Cabinetmakers and Bench Carpenters

Cut, shape, and assemble wooden articles or set up and operate a variety of woodworking machines, such as power saws, jointers, and mortisers to surface, cut, or shape lumber or to fabricate parts for wood products. Exclude "Woodworking Machine Setters, Operators, and Tenders" (51-7041 through 51-7042) who specialize in one or a limited number of machine phases.

Illustrative Examples: Marquetry Worker; Antique Furniture Repairer; Wood Machinist

51-7021 Furniture Finishers

Shape, finish, and refinish damaged, worn, or used furniture or new high-grade furniture to specified color or finish.

Illustrative Examples: Furniture Polisher; Refinisher; Wood Grainer

51-7031 Model Makers, Wood

Construct full-size and scale wooden precision models of products. Include wood jig builders and loft workers.

Illustrative Examples: Wood Jig Builder; Loft Worker

51-7032 Patternmakers, Wood

Plan, lay out, and construct wooden unit or sectional patterns used in forming sand molds for castings.

Illustrative Examples: Experimental Wood Mechanic; Wood Die Maker

51-7041 Sawing Machine Setters, Operators, and Tenders, Wood

Set up, operate, or tend wood sawing machines. Include head sawyers.

Illustrative Examples: Crozer Operator; Sawyer; Wood Cutter

51-7042 Woodworking Machine Setters, Operators, and Tenders, Except Sawing

Set up, operate, or tend woodworking machines, such as drill presses, lathes, shapers, routers, sanders, planers, and wood nailing machines.

Illustrative Examples: Frazer; Molding Sander

51-7099 Woodworkers, All Other

All woodworkers not listed separately.

Illustrative Examples: Wood Carver; Pole Framer; Veneer Taper

51-8011 Nuclear Power Reactor Operators

Control nuclear reactors.

Illustrative Examples: Nuclear Reactor Operator; Power Reactor Operator

51-8012 Power Distributors and Dispatchers

Coordinate, regulate, or distribute electricity or steam.

Illustrative Examples: Feeder Switchboard Operator; Electric and Gas Load Dispatcher; Substation Operator

51-8013 Power Plant Operators

Control, operate, or maintain machinery to generate electric power. Include auxiliary equipment operators. Exclude "Nuclear Power Reactor Operators" (51-8011).

Illustrative Examples: Hydroelectric Operator; Generator Operator; Power House Operator

51-8021 Stationary Engineers and Boiler Operators

Operate or maintain stationary engines, boilers, or other mechanical equipment to provide utilities for buildings or industrial processes. Operate equipment, such as steam engines, generators, motors, turbines, and steam boilers.

Illustrative Examples: Cooling System Operator; Low Pressure Firer; Steam Engineer

51-8031 Water and Liquid Waste Treatment Plant and System Operators

Operate or control an entire process or system of machines, often through the use of control boards, to transfer or treat water or liquid waste.

Illustrative Examples: Disposal Operator; Filtration Plant Operator; Sewage Plant Operator

51-8091 Chemical Plant and System Operators

Control or operate an entire chemical process or system of machines.

Illustrative Examples: Denitrator; Nitrogen Operator; Wash Operator

51-8092 Gas Plant Operators

Distribute or process gas for utility companies and others by controlling compressors to maintain specified pressures on main pipelines.

Illustrative Examples: Liquefaction Plant Operator; Pressure Dispatcher

51-8093 Petroleum Pump System Operators, Refinery Operators, and Gaugers

Control the operation of petroleum refining or processing units. May specialize in controlling manifold and pumping systems, gauging or testing oil in storage tanks, or regulating the flow of oil into pipelines.

Illustrative Examples: Absorption Plant Operator; Gasoline Plant Operator; Oil Refiner

51-8099 Plant and System Operators, All Other

All plant and system operators not listed separately.

Illustrative Examples: Asphalt Plant Operator; Lime Filter Operator; Incinerator Operator

51-9011 Chemical Equipment Operators and Tenders

Operate or tend equipment to control chemical changes or reactions in the processing of industrial or consumer products. Equipment used includes devulcanizers, steam-jacketed kettles, and reactor vessels. Exclude "Chemical Plant and System Operators" (51-8091).

Illustrative Examples: Acetylene Plant Operator; Acid Purifier; Caustic Purification Operator

51-9012 Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders

Set up, operate, or tend continuous flow or vat-type equipment; filter presses; shaker screens; centrifuges; condenser tubes; precipitating, fermenting, or evaporating tanks; scrubbing towers; or batch stills. These machines extract, sort, or separate liquids, gases, or solids from other materials to recover a refined product. Include dairy processing equipment operators. Exclude "Chemical Equipment Operators and Tenders" (51-9011).

Illustrative Examples: Brewmaster; Dairy Processing Equipment Operator; Distiller

51-9021 Crushing, Grinding, and Polishing Machine Setters, Operators, and Tenders

Set up, operate, or tend machines to crush, grind, or polish materials, such as coal, glass, grain, stone, food, or rubber.

Illustrative Examples: Beveling and Edging Machine Operator; Pulverizer Operator; Sand Blast Operator

51-9022 Grinding and Polishing Workers, Hand

Grind, sand, or polish, using hand tools or hand-held power tools, a variety of metal, wood, stone, clay, plastic, or glass objects. Include chippers, buffers, and finishers.

Illustrative Examples: Metal Sander; Gun Barrel Finisher; Hand Buffer

51-9023 Mixing and Blending Machine Setters, Operators, and Tenders

Set up, operate, or tend machines to mix or blend materials, such as chemicals, tobacco, liquids, color pigments, or explosive ingredients. Exclude "Food Batchmakers" (51-3092).

Illustrative Examples: Batch Maker; Clay Mixer; Tumbler Tender

51-9031 Cutters and Trimmers, Hand

Use hand tools or hand-held power tools to cut and trim a variety of manufactured items, such as carpet, fabric, stone, glass, or rubber.

Illustrative Examples: Buttonhole Maker; Fur Trimmer; Thread Clipper

51-9032 Cutting and Slicing Machine Setters, Operators, and Tenders

Set up, operate, or tend machines that cut or slice materials, such as glass, stone, cork, rubber, tobacco, food, paper, or insulating material. Exclude "Woodworking Machine Setters, Operators, and Tenders" (51-7041

through 51-7042), "Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic" (51-4031), and "Textile Cutting Machine Setters, Operators, and Tenders" (51-6062).

Illustrative Examples: Bias Machine Operator; Shear Operator; Slate Trimmer

51-9041 Extruding, Forming, Pressing, and Compacting Machine Setters, Operators, and Tenders

Set up, operate, or tend machines, such as glass forming machines, plodder machines, and tuber machines, to shape and form products, such as glassware, food, rubber, soap, brick, tile, clay, wax, tobacco, or cosmetics. Exclude "Paper Goods Machine Setters, Operators, and Tenders" (51-9196) and "Shoe Machine Operators and Tenders" (51-6042).

Illustrative Examples: Briquette Maker; Cigarette Machine Operator; Rubber Laminating Machine Operator

51-9051 Furnace, Kiln, Oven, Drier, and Kettle Operators and Tenders

Operate or tend heating equipment other than basic metal, plastic, or food processing equipment. Includes activities, such as annealing glass, drying lumber, curing rubber, removing moisture from materials, or boiling soap.

Illustrative Examples: Brick Baker; Stoker; Tunnel Kiln Operator

51-9061 Inspectors, Testers, Sorters, Samplers, and Weighers

Inspect, test, sort, sample, or weigh nonagricultural raw materials or processed, machined, fabricated, or assembled parts or products for defects, wear, and deviations from specifications. May use precision measuring instruments and complex test equipment.

Illustrative Examples: Bearing Inspector; Quality Checker; Testing and Regulating Technician

51-9071 Jewelers and Precious Stone and Metal Workers

Design, fabricate, adjust, repair, or appraise jewelry, gold, silver, other precious metals, or gems. Include diamond polishers and gem cutters and persons who perform precision casting and modeling of molds, casting metal in molds, or setting precious and semi-precious stones for jewelry and related products.

Illustrative Examples: Diamond Expert; Gemologist; Goldsmith

51-9081 Dental Laboratory Technicians

Construct and repair full or partial dentures or dental appliances. Exclude "Dental Assistants" (31-9091).

Illustrative Examples: Ceramist; Crown and Bridge Technician; Orthodontic Technician

51-9082 Medical Appliance Technicians

Construct, fit, maintain, or repair medical supportive devices, such as braces, artificial limbs, joints, arch supports, and other surgical and medical appliances.

Illustrative Examples: Brace Maker; Orthotics Technician; Prosthetics Technician

51-9083 Ophthalmic Laboratory Technicians

Cut, grind, and polish eyeglasses, contact lenses, or other precision optical elements. Assemble and mount lenses into frames or process other optical elements. Include precision lens polishers or grinders, centerers, edgers, and lens mounters. Exclude "Opticians, Dispensing" (29-2081).

Illustrative Examples: Eyeglass Maker; Lens Grinder; Spectacle Truer

51-9111 Packaging and Filling Machine Operators and Tenders

Operate or tend machines to prepare industrial or consumer products for storage or shipment. Include cannery workers who pack food products.

Illustrative Examples: Bottle Caser; Wrapper Layer; Strapping Machine Operator

51-9121 Coating, Painting, and Spraying Machine Setters, Operators, and Tenders

Set up, operate, or tend machines to coat or paint any of a wide variety of products including food, glassware, cloth, ceramics, metal, plastic, paper, or wood, with lacquer, silver, copper, rubber, varnish, glaze, enamel, oil, or rust-proofing materials. Exclude "Plating and Coating Machine Setters, Operators, and Tenders, Metal and Plastic" (51-4193) and "Painters, Transportation Equipment" (51-9122).

Illustrative Examples: Electrostatic Paint Operator; Silversing Applicator; Supercalender Operator

51-9122 Painters, Transportation Equipment

Operate or tend painting machines to paint surfaces of transportation equipment, such as automobiles, buses, trucks, trains, boats, and airplanes. Include painters in auto body repair facilities.

Illustrative Examples: Auto Painter; Rust Proofer

51-9123 Painting, Coating, and Decorating Workers

Paint, coat, or decorate articles, such as furniture, glass, plateware, pottery, jewelry, cakes, toys, books, or leather. Exclude "Artists and Related Workers" (27-1011 through 27-1019), "Designers" (27-1021 through 27-1029), "Photographic Process Workers" (51-9131), and "Etchers and Engravers" (51-9194).

Illustrative Examples: Stenciler; Candy Dipper; Mirror Silverer

51-9131 Photographic Process Workers

Perform precision work involved in photographic processing, such as editing photographic negatives and prints, using photo-mechanical, chemical, or computerized methods.

Illustrative Examples: Photographic Colorist; Darkroom Technician; Photo Finisher

51-9132 Photographic Processing Machine Operators

Operate photographic processing machines, such as photographic printing machines, film developing machines, and mounting presses.

Illustrative Examples: Film Printer; Film Processor; Reproduction Machine Loader

51-9141 Semiconductor Processors

Perform any or all of the following functions in the manufacture of electronic semiconductors: load semiconductor material into furnace; saw formed ingots into segments; load individual segment into crystal growing chamber and monitor controls; locate crystal axis in ingot using x-ray equipment and saw ingots into wafers; clean, polish, and load wafers into series of special purpose furnaces, chemical baths, and equipment used to form circuitry and change conductive properties.

Illustrative Examples: Circuit Recorder; Crystal Grower; Wafer Machine Operator

51-9191 Cementing and Gluing Machine Operators and Tenders

Operate or tend cementing and gluing machines to join items for further processing or to form a completed product. Processes include joining veneer sheets into plywood; gluing paper; joining rubber and rubberized fabric parts, plastic, simulated leather, or other materials. Exclude "Shoe Machine Operators and Tenders" (51-6042).

Illustrative Examples: Bonding Molder; Paper Sealer; Taper Operator

51-9192 Cleaning, Washing, and Metal Pickling Equipment Operators and Tenders

Operate or tend machines to wash or clean products, such as barrels or kegs, glass items, tin plate, food, pulp, coal, plastic, or rubber, to remove impurities.

Illustrative Examples: Acid Dipper; Degreaser Operator; Pulp Bleacher

51-9193 Cooling and Freezing Equipment Operators and Tenders

Operate or tend equipment, such as cooling and freezing units, refrigerators, batch freezers, and freezing tunnels, to cool or freeze products, food, blood plasma, and chemicals.

Illustrative Examples: Chiller Tender; Ice Maker; Refrigerating Machine Operator

51-9194 Etchers and Engravers

Engrave or etch metal, wood, rubber, or other materials for identification or decorative purposes. Include such workers as etcher-circuit processors, pantograph engravers, and silk screen etchers. Include photoengravers with "Prepress Technicians and Workers" (51-5022). *Illustrative Examples: Embosser; Letterer; Siderographer*

51-9195 Molders, Shapers, and Casters, Except Metal and Plastic

Mold, shape, form, cast, or carve products such as food products, figurines, tile, pipes, and candles consisting of clay, glass, plaster, concrete, stone, or combinations of materials.

Illustrative Examples: Cigar Roller; Glass Blower; Marble Finisher

51-9196 Paper Goods Machine Setters, Operators, and Tenders

Set up, operate, or tend paper goods machines that perform a variety of functions, such as converting, sawing, corrugating, banding, wrapping, boxing, stitching, forming, or sealing paper or paperboard sheets into products.

Illustrative Examples: Bag Machine Operator; Box Fabricator; Carton Forming Machine Operator

51-9197 Tire Builders

Operate machines to build tires from rubber components.

Illustrative Examples: Retreader; Tire Curer; Tube Builder

51-9198 Helpers—Production Workers

Help production workers by performing duties of lesser skill. Duties include supplying or holding materials or tools, and cleaning work area and equipment. Exclude

apprentice workers and report them with the appropriate production occupation (51-1011 through 51-9199).

Illustrative Examples: Welder's Assistant; Tailor's Aide; Millwright's Helper

51-9199 Production Workers, All Other

All production workers not listed separately.

Illustrative Examples: Barrel Header; Mop Maker

Transportation and Material Moving Occupations

53-1011 Aircraft Cargo Handling Supervisors

Direct ground crew in the loading, unloading, securing, and staging of aircraft cargo or baggage. Determine the quantity and orientation of cargo and compute aircraft center of gravity. May accompany aircraft as member of flight crew and monitor and handle cargo in flight, and assist and brief passengers on safety and emergency procedures. Include loadmasters.

Illustrative Examples: Loadmaster; Ramp Boss; Ground Crew Supervisor

53-1021 First-Line Supervisors/Managers of Helpers, Laborers, and Material Movers, Hand

Supervise and coordinate the activities of helpers, laborers, or material movers.

Illustrative Examples: Cargo Supervisor; Yard Supervisor; Warehouse Supervisor

53-1031 First-Line Supervisors/Managers of Transportation and Material-Moving Machine and Vehicle Operators

Directly supervise and coordinate activities of transportation and material-moving machine and vehicle operators and helpers.

Illustrative Examples: Dockmaster; Gas Station Manager; Roadmaster

53-2011 Airline Pilots, Copilots, and Flight Engineers

Pilot and navigate the flight of multi-engine aircraft in regularly scheduled service for the transport of passengers and cargo. Requires Federal Air Transport rating and certification in specific aircraft type used. Include aircraft instructors with similar certification.

Illustrative Examples: Airline Captain; First Officer; Flight Navigator

53-2012 Commercial Pilots

Pilot and navigate the flight of small fixed or rotary winged aircraft, primarily for the transport of cargo and passengers. Requires Commercial Rating. Include aircraft instructors with similar certification.

Illustrative Examples: Crop Duster; Helicopter Pilot; Test Pilot

53-2021 Air Traffic Controllers

Control air traffic on and within vicinity of airport and movement of air traffic between altitude sectors and control centers according to established procedures and policies. Authorize, regulate, and control commercial airline flights according to government or company regulations to expedite and ensure flight safety.

Illustrative Examples: Control Tower Operator; Flight Control Specialist; Flight Dispatcher

53-2022 Airfield Operations Specialists

Ensure the safe takeoff and landing of commercial and military aircraft. Duties include coordination between air-traffic control and maintenance personnel; dispatching; using airfield landing and navigational aids; implementing airfield safety procedures; monitoring and maintaining flight records; and applying knowledge of weather information.

Illustrative Examples: Airfield Manager; Flight Director; Flight Operations Coordinator

53-2099 Air Transportation Workers, All Other

53-3011 Ambulance Drivers and Attendants, Except Emergency Medical Technicians

Drive ambulance or assist ambulance driver in transporting sick, injured, or convalescent persons. Assist in lifting patients.

Illustrative Example: Patient Carrier

53-3021 Bus Drivers, Transit and Intercity

Drive bus or motor coach, including regular route operations, charters, and private carriage. May assist passengers with baggage. May collect fares or tickets.

Illustrative Examples: Motor Coach Operator; Jitney Driver

53-3022 Bus Drivers, School

Transport students or special clients, such as the elderly or persons with disabilities. Ensure adherence to safety rules. May assist passengers in boarding or exiting.

53-3031 Driver/Sales Workers

Drive truck or other vehicle over established routes or within an established territory and sell goods, such as food products, including restaurant take-out items, or pick up and deliver items, such as laundry. May also

take orders and collect payments. Include newspaper delivery drivers. Exclude "Truck Drivers, Light or Delivery Services" (53-3033) and "Coin, Vending, and Amusement Machine Servicers and Repairers" (49-9091).

Illustrative Examples: Bakery Delivery Person; Milk Delivery Person; Bread Distributor

53-3032 Truck Drivers, Heavy and Tractor-Trailer

Drive a tractor-trailer combination or a truck with a capacity of at least 26,000 GVW, to transport and deliver goods, livestock, or materials in liquid, loose, or packaged form. May be required to unload truck. May require use of automated routing equipment. Requires commercial drivers' license.

Illustrative Examples: Auto Carrier Driver; Cement Truck Driver; Moving Van Driver

53-3033 Truck Drivers, Light or Delivery Services

Drive a truck or van with a capacity of under 26,000 GVW, primarily to deliver or pick up merchandise or to deliver packages within a specified area. May require use of automatic routing or location software. May load and unload truck. Exclude "Couriers and Messengers" (43-5021).

Illustrative Example: Parcel Post Truck Driver

53-3041 Taxi Drivers and Chauffeurs

Drive automobiles, vans, or limousines to transport passengers. May occasionally carry cargo. Include hearse drivers. Exclude "Ambulance Drivers and Attendants, Except Emergency Medical Technicians" (53-3011) and "Bus Drivers" (53-3021 through 53-3022).

Illustrative Examples: Cab Driver; Courtesy Van Driver; Limousine Driver

53-3099 Motor Vehicle Operators, All Other

All motor vehicle operators not listed separately.

Illustrative Examples: Motorcycle Delivery Driver; Assembly Line Driver; Street Cleaning Equipment Operator

53-4011 Locomotive Engineers

Drive electric, diesel-electric, steam, or gas-turbine-electric locomotives to transport passengers or freight. Interpret train orders, electronic or manual signals, and railroad rules and regulations.

Illustrative Examples: Diesel Engineer; Narrow Gauge Operator; Rail Car Operator

53-4012 Locomotive Firers

Monitor locomotive instruments and watch for dragging equipment, obstacles on rights-of-way, and train signals during run. Watch for and relay traffic signals from yard

workers to yard engineer in railroad yard.

Illustrative Examples: Assistant Engineer; Railroad Firer

53-4013 Rail Yard Engineers, Dinkey Operators, and Hostlers

Drive switching or other locomotive or dinkey engines within railroad yard, industrial plant, quarry, construction project, or similar location.

Illustrative Examples: Car Mover; Larry Car Operator; Coal Tram Driver

53-4021 Railroad Brake, Signal, and Switch Operators

Operate railroad track switches. Couple or uncouple rolling stock to make up or break up trains. Signal engineers by hand or flagging. May inspect couplings, air hoses, journal boxes, and hand brakes.

Illustrative Examples: Car Hopper; Coupler; Switch Tender

53-4031 Railroad Conductors and Yardmasters

Conductors coordinate activities of train crew on passenger or freight train. Coordinate activities of switch-engine crew within yard of railroad, industrial plant, or similar location. Yardmasters coordinate activities of workers engaged in railroad traffic operations, such as the makeup or breakup of trains, yard switching, and review train schedules and switching orders.

Illustrative Examples: Car Dispatcher; Roadmaster; Yard Pilot

53-4041 Subway and Streetcar Operators

Operate subway or elevated suburban train with no separate locomotive, or electric-powered streetcar to transport passengers. May handle fares.

Illustrative Examples: Monorail Operator; Tram Operator; Trolley Operator

53-4099 Rail Transportation Workers, All Other

All rail transportation workers not listed separately.

Illustrative Examples: Car Retarder Operator; Ballast Regulator Operator

53-5011 Sailors and Marine Oilers

Stand watch to look for obstructions in path of vessel, measure water depth, turn wheel on bridge, or use emergency equipment as directed by captain, mate, or pilot. Break out, rig, overhaul, and store cargo-handling gear, stationary rigging, and running gear. Perform a variety of maintenance tasks to preserve the painted surface of the ship and to maintain line and ship equipment. Must hold government-issued certification and tankerman cer-

tification when working aboard liquid-carrying vessels. Include able seamen and ordinary seamen.

Illustrative Examples: Able Seaman; Deckhand

53-5021 Captains, Mates, and Pilots of Water Vessels

Command or supervise operations of ships and water vessels, such as tugboats and ferryboats, that travel into and out of harbors, estuaries, straits, and sounds and on rivers, lakes, bays, and oceans. Required to hold license issued by U.S. Coast Guard. Exclude "Motorboat Operators" (53-5022).

Illustrative Examples: Barge Captain; Deck Officer; Tugboat Operator

53-5022 Motorboat Operators

Operate small motor-driven boats to carry passengers and freight between ships, or ship to shore. May patrol harbors and beach areas. May assist in navigational activities.

Illustrative Examples: Launch Operator; Speedboat Operator

53-5031 Ship Engineers

Supervise and coordinate activities of crew engaged in operating and maintaining engines, boilers, deck machinery, and electrical, sanitary, and refrigeration equipment aboard ship.

Illustrative Examples: Deck Engineer; Marine Engine Mechanic

53-5099 Water Transportation Workers, All Other

53-6011 Bridge and Lock Tenders

Operate and tend bridges, canal locks, and lighthouses to permit marine passage on inland waterways, near shores, and at danger points in waterway passages. May supervise such operations. Include drawbridge operators, lock tenders and operators, and slip bridge operators.

Illustrative Examples: Drawbridge Operator; Lighthouse Keeper; Lock Master

53-6021 Parking Lot Attendants

Park automobiles or issue tickets for customers in a parking lot or garage. May collect fee.

Illustrative Examples: Car Hop; Car Runner; Valet Parker

53-6031 Service Station Attendants

Service automobiles, buses, trucks, boats, and other automotive or marine vehicles with fuel, lubricants, and accessories. Collect payment for services and supplies. May lubricate vehicle, change motor oil, install antifreeze,

or replace lights or other accessories, such as windshield wiper blades or fan belts. May repair or replace tires.

Illustrative Examples: Filling Station Attendant; Gas and Oil Servicer; Pump Attendant

53-6041 Traffic Technicians

Conduct field studies to determine traffic volume, speed, effectiveness of signals, adequacy of lighting, and other factors influencing traffic conditions, under direction of traffic engineer.

Illustrative Example: Traffic Analyst

53-6051 Transportation Inspectors

Inspect equipment or goods in connection with the safe transport of cargo or people. Include rail transport inspectors, such as freight inspectors, car inspectors, rail inspectors, and other nonprecision inspectors of other types of transportation vehicles.

Illustrative Examples: Airplane Inspector; Motor Vehicle Examiner; Safety Agent

53-6099 Transportation Workers, All Other

All transportation workers not listed separately.

Illustrative Example: Rickshaw Driver

53-7011 Conveyor Operators and Tenders

Control or tend conveyors or conveyor systems that move materials or products to and from stockpiles, processing stations, departments, or vehicles. May control speed and routing of materials or products.

Illustrative Examples: Belt Tender; Grain Elevator Operator

53-7021 Crane and Tower Operators

Operate mechanical boom and cable or tower and cable equipment to lift and move materials, machines, or products in many directions. Exclude "Excavating and Loading Machine and Dragline Operators" (53-7032).

Illustrative Examples: Boomswing Operator; Cherry Picker Operator; Scrap Drop Operator

53-7031 Dredge Operators

Operate dredge to remove sand, gravel, or other materials from lakes, rivers, or streams; and to excavate and maintain navigable channels in waterways.

Illustrative Example: Dredger

53-7032 Excavating and Loading Machine and Dragline Operators

Operate or tend machinery equipped with scoops, shovels, or buckets, to excavate and load loose materials. Exclude "Dredge Operators" (53-7031).

Illustrative Examples: Back Hoe Operator; Payloader Operator; Shovel Operator

53-7033 Loading Machine Operators, Underground Mining

Operate underground loading machine to load coal, ore, or rock into shuttle or mine car or onto conveyors. Loading equipment may include power shovels, hoisting engines equipped with cable-drawn scraper or scoop, or machines equipped with gathering arms and conveyor.

Illustrative Example: Coke Loader

53-7041 Hoist and Winch Operators

Operate or tend hoists or winches to lift and pull loads using power-operated cable equipment. Exclude "Crane and Tower Operators" (53-7021).

Illustrative Examples: Derrick Operator; Hydraulic Boom Operator; Well Puller

53-7051 Industrial Truck and Tractor Operators

Operate industrial trucks or tractors equipped to move materials around a warehouse, storage yard, factory, construction site, or similar location. Exclude "Logging Equipment Operators" (45-4022).

Illustrative Examples: Fork Lift Driver; Skidder Operator; Stacker Operator

53-7061 Cleaners of Vehicles and Equipment

Wash or otherwise clean vehicles, machinery, and other equipment. Use such materials as water, cleaning agents, brushes, cloths, and hoses. Exclude "Janitors and Cleaners, Except Maids and Housekeeping Cleaners" (37-2011).

Illustrative Examples: Barrel Washer; Auto Detailer; Machine Cleaner

53-7062 Laborers and Freight, Stock, and Material Movers, Hand

Manually move freight, stock, or other materials or perform other unskilled general labor. Include all unskilled manual laborers not elsewhere classified. Exclude "Material Moving Workers" (53-7011 through 53-7199) who use power equipment. Exclude "Construction Laborers" (47-2061) and "Construction Trades Helpers" (47-3011 through 47-3019).

Illustrative Examples: Cargo Handler; Stevedore; Truck Loader and Unloader

53-7063 Machine Feeders and Offbearers

Feed materials into or remove materials from machines or equipment that is automatic or tended by other workers.

Illustrative Examples: Hopper Filler; Board Catcher; Doffer

53-7064 Packers and Packagers, Hand

Pack or package by hand a wide variety of products and materials.

Illustrative Examples: Bagger; Boxer; Gift Wrapper

53-7071 Gas Compressor and Gas Pumping Station Operators

Operate steam, gas, electric motor, or internal combustion engine driven compressors. Transmit, compress, or recover gases, such as butane, nitrogen, hydrogen, and natural gas.

Illustrative Examples: Gas Booster Engineer; Gas Transfer Operator

53-7072 Pump Operators, Except Wellhead Pumps

Tend, control, or operate power-driven, stationary, or portable pumps and manifold systems to transfer gases, oil, other liquids, slurries, or powdered materials to and from various vessels and processes.

Illustrative Examples: Brewery Pumper; Main-Line Station Engineer; Oil Pumper

53-7073 Wellhead Pumps

Operate power pumps and auxiliary equipment to produce flow of oil or gas from wells in oil field.

Illustrative Example: Oil Well Service Operator

53-7081 Refuse and Recyclable Material Collectors

Collect and dump refuse or recyclable materials from containers into truck. May drive truck.

Illustrative Examples: Garbage Collector; Scrap Metal Collector; Trash Collector

53-7111 Shuttle Car Operators

Operate diesel or electric-powered shuttle car in underground mine to transport materials from working face to mine cars or conveyor.

Illustrative Examples: Car Dumper; Cart Driver; Shuttle Buggy Operator

53-7121 Tank Car, Truck, and Ship Loaders

Load and unload chemicals and bulk solids, such as coal, sand, and grain into or from tank cars, trucks, or ships using material moving equipment. May perform a variety of other tasks relating to shipment of products. May gauge or sample shipping tanks and test them for leaks.

Illustrative Examples: Coal Dumping Equipment Operator; Loader Operator; Spout Tender

53-7199 Material Moving Workers, All Other

All material moving workers not listed separately.

Illustrative Examples: Elevator Operator; Hand Trucker; Longshore Equipment Operator

Technical Notes for OES Estimates 2002 Edition

Scope of the survey

The Occupational Employment Statistics (OES) survey is an annual mail survey measuring occupational employment and wage rates for wage and salary workers in nonfarm establishments, by industry. The OES survey samples and contacts approximately 400,000 establishments each year and, over 3 years, contacts approximately 1.2 million establishments. The reference period for each year's survey is the fourth quarter of that year. The nationwide response rate for the 2000 survey was 78 percent in units and 70 percent in employment. While estimates can be made from a single year or two years of data, the OES survey has been designed to produce estimates using the full 3 years of sample. (See Estimation methodology section.) The full sample allows the production of estimates at fine levels of geographical, industrial, and occupational detail. Estimates from the 2000 survey, however, are based only on 2 years of data because of the conversion to the Standard Occupational Classification (SOC) system in 1999. A brief description of this new classification system is provided below.

The Occupational Classification Standard for 2000: In 1999 the OES survey began using the Office of Management and Budget's occupational classification system — the Standard Occupational Classification System (SOC). The SOC system is the first OMB-required occupational classification system for Federal agencies. The OES survey categorizes workers in one of about 770 detailed occupations.

Together, these detailed occupations comprise 22 major occupational groups. The major groups of the SOC system are as follows:

- Management occupations
- Business and financial operations occupations
- Computer and mathematical occupations
- Architecture and engineering occupations
- Life, physical, and social science occupations
- Community and social services occupations
- Legal occupations
- Education, training and library occupations
- Arts, design, entertainment, sports, and media occupations
- Healthcare practitioners and technical occupations
- Healthcare support occupations
- Protective service occupations
- Food preparation and serving related occupations
- Building and grounds cleaning and maintenance occupations
- Personal care and service occupations
- Sales and related occupations
- Office and administrative support occupations

- Farming, fishing, and forestry, occupations
- Construction, and extraction occupations
- Installation, maintenance, and repair occupations
- Production occupations
- Transportation and material moving occupations
- Military specific occupations (not surveyed in OES).

For more information about the SOC, please see the BLS Web site at :
<http://www.bls.gov/soc>

BLS funds the survey and provides the procedures and technical support, while the State Employment Security Agencies (SESAs) collect the data. BLS produces cross industry and 2- and 3-digit Standard Industrial Classification (SIC) industry estimates for the nation, states, and metropolitan statistical areas (MSAs). BLS releases all cross industry and national estimates, and the SESAs release industry estimates at the State and MSA levels.

The OES survey defines employment as the number of workers who can be classified as full-time or part-time employees, including workers on paid vacations or other types of leave; workers on unpaid short-term absences; salaried officers, executives, and staff members of incorporated firms; employees temporarily assigned to other units; and employees for whom the reporting unit is their permanent duty station regardless of whether that unit prepares their paycheck. The survey excludes the self-employed, owners/partners of unincorporated firms, and unpaid family workers. Employees are reported in the occupation in which they are working, not necessarily for which they were trained.

The OES survey currently uses the Standard Industrial Classification system to classify all establishments. An establishment is defined as an economic unit that processes goods or provides services, such as a factory, mine, or store. The establishment is generally at a single physical location and is engaged primarily in one type of economic activity. The scope of the survey includes establishments in SIC codes 07, 10, 12 to 17, 20 to 42, 44 to 65, 67, 70, 72, 73, 75, 76, 78 to 84, 86, 87, and 89, and state, and local government. This scope covers agricultural services; mining; construction; manufacturing; transportation and public utilities; wholesale and retail trade; finance, insurance, and real estate; services; and government workers. Data for the postal service (SIC code 43) and federal government are universe counts obtained from the Postal Service and the Office of Personnel Management, respectively.

States' Unemployment Insurance (UI) files provide the universe from which the OES survey

draws its sample. The employment benchmarks are obtained from reports submitted by employers to the UI program. In some nonmanufacturing industries, supplemental sources are used for establishments not reporting to the UI program. The OES survey sample is stratified by area, industry, and size class. Size classes are defined as follows:

Size class	Number of employees
1	1 to 4
2	5 to 9
3	10 to 19
4	20 to 49
5	50 to 99
6	100 to 249
7	250 and above

UI reporting units with 250 or more employees are sampled with certainty across a 3-year period. Generally, one-third of the certainty units are sampled each year in each state. There are some states that sample more than one-third of their certainty units during one survey year.

Concepts

Employment is the estimate of total wage and salary employment in an occupation across the industries in which it was reported. The OES survey form sent to an establishment contains between 50 and 225 SOC occupations selected on the basis of the industry classification and size class of the sampled establishments. To reduce paperwork and respondent burden, no survey form contains every SOC occupation. Thus, data for specific occupations are collected primarily from establishments within industries that are the predominant employers of labor in these occupations. Each survey form is structured, however, to allow a respondent to provide information for each detailed occupation employed at the establishment; that is, unlisted occupations can be added to the survey form. *Wages* for the OES survey are straight-time, gross pay, exclusive of premium pay. Base rate, cost-of-living allowances, guaranteed pay, hazardous-duty pay, incentive pay including commissions and production bonuses, tips, and on-call pay are included. Excluded are back pay, jury duty pay, overtime pay, severance pay, shift differentials, nonproduction bonuses, employer cost of supplementary benefits, and tuition reimbursements.

The OES survey collects wage data in 12 intervals. Employers report the number of em-

employees in an occupation per each wage range. The wage intervals used for the 2000 survey are as follows:

Interval	Hourly Wages	Annual Wages
Range A	Under \$6.75	Under \$14,040
Range B	\$6.75 to \$8.49	\$14,040 to \$17,679
Range C	\$8.50 to \$10.74	\$17,680 to \$22,359
Range D	\$10.75 to \$13.49	\$22,360 to \$28,079
Range E	\$13.50 to \$16.99	\$28,080 to \$35,359
Range F	\$17.00 to \$21.49	\$35,360 to \$44,719
Range G	\$21.50 to \$27.24	\$44,720 to \$56,679
Range H	\$27.25 to \$34.49	\$56,680 to \$71,759
Range I	\$34.50 to \$43.74	\$71,760 to \$90,999
Range J	\$43.75 to \$55.49	\$91,000 to \$115,439
Range K	\$55.50 to \$69.99	\$115,440 to \$145,599
Range L	\$70.00 and over	\$145,600 and over

Mean wage is the estimated total wages for an occupation divided by its weighted survey employment. With the exception of the upper open-ended wage interval, interval L (\$70.00 an hour and over), a mean wage value is calculated for each wage interval based on occupational wage data collected by the Office of Compensation and Working Conditions. The mean wage value for the upper open-ended wage interval is its lower bound (Winsorized mean). These interval mean wage values are then attributed to all workers reported in the interval. For each occupation, total weighted wages in each interval are summed across all intervals and divided by the occupation's weighted survey employment.

Annual wage: Many employees are paid at an hourly rate by their employers and may work less than or more than 40 hours per week. The annual wage estimates in this release are calculated by multiplying the mean hourly wage by a "year-round, full-time" hours figure of 2,080 hours per year (52 weeks by 40 hours). Thus, the annual wage estimates may not represent the actual annual pay received by the employee if they work more or less than 2,080 hours per year. There are workers in some occupations who are paid based on an annual amount, but generally do not work the usual 2,080 hours per year. Since the survey does not collect the actual hours worked, the hourly rate cannot be calculated with a reasonable degree of confidence from the annual wages. For this reason, the annual salary is directly calculated from reported survey data and only annual wage estimates are reported for these occupations. Occupations that typically have a work year of less than 2,080 hours include musical and entertainment occupations, pilots and flight attendants, and teachers.

Hourly versus annual wage reporting: For each occupation, respondents are asked to report the number of employees paid within specific wage intervals. The intervals are defined both as hourly rates and the corresponding annual rates, where the annual rates are constructed by multiplying the hourly wage rate for the interval by the typical work year of 2,080 hours. In reporting, the respondent can reference either the hourly or the annual rate, but is instructed to report the hourly rate for part-time workers.

Estimation methodology

The OES survey samples approximately 400,000 establishments each year and, over a 3-year period, contacts approximately 1.2 million establishments. Each single-year sample represents a one-third sample of both the certainty and non-certainty strata for the full 3-year sample plan. While estimates can be made from a single year or two years of data, as was done for the 2000 data released here, the OES survey has been designed to produce estimates using the full 3 years of data. The full 3-year sample allows the production of estimates at fine levels of geographical, industrial, and occupational detail, while estimates using any one year of data would be subject to a higher sampling error (due to the smaller sample size) and the limitations associated with having only 1/3 of the units from the certainty strata. Producing estimates using the 3 years of sample data provides significant sampling error reductions (particularly for small geographic areas and occupations); however, it also has some quality limitations in that it requires the adjustment of earlier years' data to the current reference period—a procedure referred to as “wage updating.”

Wage Updating: As noted above, combining multiple years of data has both statistical advantages and limitations. Significant reductions in sampling error can be achieved by taking advantage of 3 years of data, which covers over 70 percent of the employment in the United States. This feature is particularly important in improving the reliability of estimates for small domains in the population (that is, wage and employment estimates for detailed occupations in small areas). Combining multiple years of data also has been necessary to obtain full coverage of the certainty strata (that is, large employers with 250 or more employment).

Starting with the 1997 estimates, the OES program has used the over-the-year fourth-quarter wage changes from the Bureau's Employment Cost Index (ECI) to adjust prior year survey data before combining it with the current year data. The wage updating procedure assumes that each occupation's wage, as measured in the earlier years, moves according to the average movement of its occupational division and that there are no major geographic or detailed occupational differences—and this may not be the case. The Bureau has conducted research over the past several years on the accuracy of the ECI wage-updating method versus other modeling approaches. Current research results support the continued use of the ECI wage-updating methodology.

2000 OES survey estimates: In 1999 the OES survey began using an occupational coding structure based on OMB's Standard Occupational Classification System. Therefore, 2000 OES survey estimates are based only on two years of data collected in the 1999 and 2000 survey.

The 2000 estimates use the wage-updating methodology introduced in 1997, which uses the over-the-year fourth-quarter wage changes from the Bureau's Employment Cost Index to adjust prior years' data before combining them with data from the current year. In addition, the 2000 estimates use the estimation methodology introduced in 1997, which uses a "nearest neighbor" imputation approach for nonrespondents and applies employment benchmarks at a detailed MSA by 3-digit industry and broad size class level.

Reliability of the estimates: Statistics based on establishment surveys are subject to both sampling and nonsampling error. When a sample of the population is surveyed, there is a chance that the sample estimate of a characteristic may differ from the population value of that characteristic. The difference between the sample estimate and the population value will vary depending on the particular sample selected. This variability is measured by the sampling error (SE). If we were to repeat the sampling and estimation process using the same survey design, 90 percent of the intervals from the sample estimate minus 1.6 SE to the sample estimate plus 1.6 SE would include the population value. This interval is called a 90 percent confidence interval. The OES survey produces estimates of the relative standard error (RSE). The RSE is defined as the SE divided by the estimated value as computed from the sample. This statistic provides the user with a measure of the relative precision of the sample estimates. The SE may be obtained by multiplying the RSE by the sample estimate. RSE estimates are produced for both occupational employment and mean wage estimates. The employment RSE values are estimated using a subsample replication technique known as the Jackknife (random group) variance estimation method. The mean wage RSE values are estimated using a variance components model that accounts for both the observed and unobserved components of the wage data. In general, estimates involving many establishments have lower relative standard errors than estimates involving few establishments. If the distributional assumptions of the models are violated, the resulting confidence interval may not reflect the prescribed level of confidence.

Future research: The expanded OES survey is a relatively new program, and BLS has a number of research efforts underway. Some areas of future research are given below.

Collection methodology research—This includes research on electronic collection of data from employers as an alternative to the mail questionnaire.

Estimation methodology research—An important research effort over the next several years will be the evaluation of the mean wage methodology for the upper open-ended interval. The identification of alternative modeling approaches may produce improved overall accuracy.

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- Glaziers.....13
- Graders and Sorters, Agricultural Products.....12, 64
- Graphic Designers.....7, 23, 33, 41, 49, 60
- Grinding and Polishing Workers, Hand.....28, 67
- Grinding, Lapping, Polishing, and Buffing Machine Tool Setters, Operators, and Tenders Metal and Plastic.....15, 28, 66
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- Hairdressers, Hairstylists, and Cosmetologists.....10, 42, 50, 63
- Hazardous Materials Removal Workers.....13
- Health and Safety Engineers, Except Mining Safety.....22
- Health Diagnosing and Treating Practitioners, All Other.....41, 61
- Health Educators.....5, 40
- Healthcare Support Workers, All Other.....41, 61
- Heat Treating Equip.Setters/Operators/Tenders.....66
- Heating, Air Conditioning, and Refrigeration Mechanics and Installers.....14, 28, 53, 66
- Helpers, Construction Trades, All Other.....13, 65
- Helpers—Brickmasons, Blockmasons, Stonemasons, and Tile and Marble Setters.....13
- Helpers—Carpenters.....13, 27, 35, 43, 52, 65
- Helpers—Electricians.....13, 52
- Helpers—Extraction Workers.....13, 65
- Helpers—Installation, Maintenance, and Repair Workers.....14, 28, 53, 66

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Helpers—Pipelayers, Plumbers, Pipefitters, and Steamfitters.....13, 27, 52
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- Line Supervisors Lawn, Landscaping,
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- Line Supervisors of Farming/Fishing/Forestry
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- Line Supervisors of Help/Labor/Material Movers,
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- Line Supervisors of Mechanics/Installers/Repair-
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- Line Supervisors/Construction Trades & Extrac-
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- Line Supervisors/Managers of Correctional Offic-
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- Line Supervisors/Office & Admin. Support Work-
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- Line Supervisorsof Fire Fighting and Prevention
Workers.....62
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- Loan Counselors.....4, 21, 58
- Loan Interviewers and Clerks.....11, 26, 51, 64
- Loan Officers.....4, 21, 39, 47, 58
- Locksmiths and Safe Repairers.....14
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- Machine Feeders and Offbearers.....17, 67
- Machinists.....15, 28, 66
- Maids and Housekeeping Clean-
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- Mail Clerks and Mail Machine Operators, Except
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- Maintenance and Repair Workers, Gen-
eral.....14, 28, 36, 53, 66
- Maintenance Workers, Machinery.....14, 28, 66
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- Market Research Analysts.....5, 22, 40, 58
- Marketing Managers.....3, 21, 33, 39, 47, 57
- Massage Therapists.....61
- Mathematical Science Teachers,
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- Mechanical Drafters.....5, 22, 40, 48, 58
- Mechanical Engineering Technicians.....5, 22, 58
- Mechanical Engineers.....4, 22, 58
- Media and Communication Equipment Workers, All
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- Media and Communication Workers, All
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- Medical and Clinical Laboratory Techni-
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- Medical and Health Services Managers.....3, 57
- Medical and Public Health Social Work-
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- Medical Assistants.....8, 34, 49, 61
- Medical Equipment Preparers.....8
- Medical Records and Health Information Techni-
cians.....8, 24, 49, 61
- Medical Secretaries.....12, 35, 43, 51, 64
- Medical Transcriptionists.....8, 41, 49, 61
- Meeting and Convention Planners.....4
- Mental Health and Substance Abuse Social Work-
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- Mental Health Counselors.....5, 23
- Merchandise Displayers and Window Trim-
mers.....7, 23
- Metal Workers and Plastic Workers, All
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- Meter Readers, Utilities.....12, 64
- Microbiologists.....40
- Middle School Teachers, Except Special and
Vocational Education.....6, 48, 60
- Milling/Planing Machine Set/Operate & Tend.....66
- Millwrights.....14, 28
- Mixing and Blending Machine Setters, Operators,
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Ophthalmic Laboratory Technicians.....16
Opticians, Dispensing.....8, 24, 49, 61

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- Physical Therapist Aides.....8, 49, 61
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 ers.....15, 28, 53, 66
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 als.....15, 28, 53, 66
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 ucts.....3, 57
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- Sawing Machine Setters, Operators, and Tenders, Wood.....16, 66
- Secondary School Teachers, Except Special and Voca.....6, 48, 60
- Secretaries, Except Legal, Medical, and Executive.....12, 26, 35, 43, 51, 64
- Securities, Commodities, and Financial Services Sales Agents.....10
- Security Guards.....9, 24, 34, 49, 62
- Self-Enrichment Education Teachers.....7, 60
- Separating, Filtering, Clarifying, Precipitating.....16
- Septic Tank Servicers and Sewer Pipe Cleaners.....13
- Service Station Attendants.....17, 29, 53, 67
- Service Unit Operators, Oil, Gas, and Mining.....13, 65
- Sewing Machine Operators.....15
- Shampooers.....25
- Sheet Metal Workers.....27
- Shipping, Receiving, and Traffic Clerks.....26, 35, 43, 64
- Skin Care Specialists.....10, 25
- Social and Community Service Managers.....3, 39, 47, 57
- Social and Human Service Assistants.....5, 23, 40, 48, 59
- Social Scientists and Related Workers, All Other.....22, 48, 58
- Social Work Teachers, Postsecondary.....59
- Sociology Teachers, Postsecondary.....6, 59
- Special Education Teachers, Middle School.....7, 23, 48, 60
- Special Education Teachers, Preschool, Kindergarten.....7, 33, 48, 60
- Special Education Teachers, Secondary School.....7, 33, 48, 60
- Speech-Language Pathologists.....8, 24, 34, 41, 49, 61
- Stationary Engineers and Boiler Operators.....16, 67
- Statisticians.....4
- Stock Clerks and Order Fillers.....12, 26, 35, 43, 51, 64
- Structural Iron and Steel Workers.....13, 52
- Structural Metal Fabricators and Fitters.....15, 28, 53, 66
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- Surgical Technologists.....61
- Survey Researchers.....5, 40
- Surveying and Mapping Technicians.....5, 22, 58
- Surveyors.....4, 22, 40
- Switchboard Operators, Including Answering Service.....11, 26, 42, 51, 63
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- Tailors, Dressmakers, and Custom Sewers.....15, 28, 53, 66
- Tank Car, Truck, and Ship Loaders.....29
- Tapers.....13, 52
- Tax Examiners, Collectors, and Revenue Agents.....4, 39, 47, 58
- Tax Preparers.....47
- Taxi Drivers and Chauffeurs.....17, 53, 67
- Teacher Assistants.....7, 33, 40, 48, 60
- Team Assemblers.....15, 28, 66
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- Telecommunications Equipment Installers and Repairers Except Line Installers.....14, 65
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- Telemarketers.....11, 25, 50, 63
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- Textile, Apparel, and Furnishings Workers, All Others.....16
- Tile and Marble Setters.....13, 52
- Tire Repairers and Changers.....14, 28, 43, 53, 66
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- Tool and Die Makers.....66
- Tour Guides and Escorts.....63
- Training and Development Specialists.....4, 21, 39, 47, 57
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